Usenet Newsgroup Archive: rec.radio.amateur.antenna

2011

These Usenet messages were preserved as a plain-text archive. This PDF was generated by Digital Library of Amateur Radio & Communications from the source text file in 2026.

Date span: 2011-01-01 through 2011-12-31

Source text: rec.radio.amateur.antenna.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 2,866

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-01 05:14:17 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <qkdth6tdns5pnul766qtq99op4olfb456f@4ax.com>
Source record: 6002

On Fri, 31 Dec 2010 08:53:32 -0800 (PST), K1TTT <k1ttt@arrl.net>
wrote:

>On Dec 31, 4:01ï¿½pm, John Ferrell <jferrel...@triad.rr.com> wrote:
>> I am helping to install a 135 foot dipole on a hillside for HF
>> activity. The antenna will be at least 45 feet from the ground in any
>> direction. I can believe EZNEC so far as the effects of ground on
>> impedance. but I am at a loss when it comes to considering the
>> patterns on the various bands. The ridge is about 200 feet from the
>> antenna.
>>
>> This is for a club member who recently upgraded to General Class.
>>
>> Since the ridge is close to the same height and south of the antenna,
>> I am guessing that the computed charts will be a good representation
>> of the northern half of the antenna. NVIS should not change much. The
>> terrain may work as a reflector for over the pole operation. I am
>> afraid the antenna will be of little use to the south.
>>
>> I expect we will eventually need to do the best we can with an antenna
>> on the top of the ridge. When the snow melts I will try to climb the
>> ridge for a look-see. It will likely be difficult to install due the
>> dense trees.
>>
>> Any comments, advice, suggestions etc. are appreciated!
>> John Ferrell W8CCW
>
>just put it up, hook up a tuner if the radio doesn't have one, and
>have fun. you can spend all your time modeling trying to figure out
>what it may look like, but if you are limited on how you can install
>it you can't really control much anyway. an antenna laying on the
>ground works much better than one that is only in your computer!

No argument from me! It is going up as planned as soon as the new
General gets a little more time to work with me on the project.

The hillside we are working on is a little tricky for us to deal with
while snow covered but in this part of North Carolina it does not snow
often or stay long.

We need to keep his enthusiasm up with some positive results.

John Ferrell W8CCW

2. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-01 07:00:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1293865200@panix.com>
Source record: 6003
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

3. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-01 08:55:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1eec09$0$2439$65785112@news.neostrada.pl>
Source record: 6004

"K1TTT" <k1ttt@arrl.net>wrote
news:654e86c1-494b-4c26-b4c6-109506d692ba@t35g2000yqj.googlegroups.com...
On Dec 31, 8:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Write: "electric wave equation" and you have 21 000 in 0.2 s.
> Happy New Year.
> S*

>you have a poor search engine, i get 6M hits... and all of them are
either for 'electric field' or 'electromagnetic wave'. provide a
formula or specific reference.

Write: ("electric wave equation") and your search engine will be poor.

For EM waves: "Maxwell's contribution to science in producing these
equations lies in the correction he made to Ampï¿½re's circuital law in his
1861 paper On Physical Lines of Force. He added the displacement current
term to Ampï¿½re's circuital law and this enabled him to derive the
electromagnetic wave equation in his later 1865 paper A Dynamical Theory of
the Electromagnetic Field and demonstrate the fact that light is an
electromagnetic wave".

And:
"Heaviside worked to eliminate the potentials (electric potential and
magnetic potential) that Maxwell had used as the central concepts in his
equations;[21] this effort was somewhat controversial,[25] though it was
understood by 1884 that the potentials must propagate at the speed of light
like the fields, unlike the concept of instantaneous action-at-a-distance
like the then conception of gravitational potential.[22] Modern analysis of,
for example, radio antennas, makes full use of Maxwell's vector and scalar
potentials to separate the variables, a common technique used in formulating
the solutions of differential equations. However the potentials can be
introduced by algebraic manipulation of the four fundamental equations."

Electric waves are normal pressure waves. In place of pressure is the
voltage. In Heaviside's no voltage. But "However the potentials can be
introduced by algebraic manipulation of the four fundamental equations."

Nice manipulations.
S*

4. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-01 14:00:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7ac98fdd-b4dc-4767-82d1-fae3f8013dee@t35g2000yqj.googlegroups.com>
Source record: 6005

> Electric waves are normal pressure waves. In place of pressure is the
> voltage.

sorry, this is not correct. site a CURRENT source for this
statement. you did a good job quoting the proper relations between
potentials and fields, why not for 'electric waves'? if there are so
many good references that your search shows up there must be one that
provides a current good description of them.

> In Heaviside's no voltage. But "However the potentials can be
> introduced by algebraic manipulation of the four fundamental equations."

of course, potentials are not required, they are a figment of the
equations. what is required are the fields. the potentials, as you
quote:

> Modern analysis of,
> for example, radio antennas, makes full use of Maxwell's vector and scalar
> potentials to separate the variables, a common technique used in formulating
> the solutions of differential equations.

are just a 'technique' used to solve the equations, they are not the
result. there are many techniques like that used to solve
differential equations, they often introduce new variables that have
no physical meaning but are useful to simplify the equations leading
to a useful result. as you quoted above, even heaviside realized the
potentials and therefore the separate electric and magnetic 'waves'
were not necessary to the solution so he eliminated them. while this
may have provided a simpler representation of Maxwell's equations, it
did not change the results that they represented.

5. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-01 17:46:25 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1f6875$0$2450$65785112@news.neostrada.pl>
Source record: 6006

"K1TTT" <k1ttt@arrl.net> wrote
news:7ac98fdd-b4dc-4767-82d1-fae3f8013dee@t35g2000yqj.googlegroups.com...
>
>> Electric waves are normal pressure waves. In place of pressure is the
>> voltage.
>
> sorry, this is not correct. site a CURRENT source for this
> statement. you did a good job quoting the proper relations between
> potentials and fields, why not for 'electric waves'? if there are so
> many good references that your search shows up there must be one that
> provides a current good description of them.

In Maxwell's time were math for the longitudinal waves. I am sure that were
such for electric waves also. But I am not interested in equations.
Maxwell did the math for the rotational oscillations. It is still in use in
engines area.

What Heaviside did I do not know because I do not understand in what way the
magnetic whirl appears around the wire.
It is only the piece to teach the math.
>
>> In Heaviside's no voltage. But "However the potentials can be
>> introduced by algebraic manipulation of the four fundamental equations."
>
> of course, potentials are not required, they are a figment of the
> equations. what is required are the fields. the potentials, as you
> quote:
>
>> Modern analysis of,
>> for example, radio antennas, makes full use of Maxwell's vector and
>> scalar
>> potentials to separate the variables, a common technique used in
>> formulating
>> the solutions of differential equations.
>
> are just a 'technique' used to solve the equations, they are not the
> result. there are many techniques like that used to solve
> differential equations, they often introduce new variables that have
> no physical meaning but are useful to simplify the equations leading
> to a useful result. as you quoted above, even heaviside realized the
> potentials and therefore the separate electric and magnetic 'waves'
> were not necessary to the solution so he eliminated them. while this
> may have provided a simpler representation of Maxwell's equations, it
> did not change the results that they represented.

The topic is if the damped radio waves exhibit "redshift" with the distance.
S*

6. Re: Wireless at the speed of plasma

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 03:31:30 UTC
From: John <nospam@spamless.com>
Message-ID: <4d1ff1ad$1@news.x-privat.org>
Source record: 6007
Cross-posted to: rec.sport.cricket,sci.physics,talk.politics.misc,sci.med,rec.radio.amateur.antenna

"Helmut Wabnig" <hwabnig@.- --- -. DOTat> wrote in message
news:5g4rh6tn7s50p6rgeb25cude6kodnn3s8t@4ax.com...
> On Thu, 30 Dec 2010 19:15:19 -0800, "NSA TORTURE TECHNOLOGY, NEWS and
> RESEARCH" <TortureTechnologyNResearch@yahoo.com> wrote:
>

>>Existing directional antennas that transmit high-frequency radio waves
>>require expensive materials or precise manufacturing

WRONG - cheap lands on PCboard.

> This "beam-forming" capability makes the antennas crucial to
>>ultrafast wireless applications, because they can focus a stream of
>>high-frequency radio waves that would quickly dissipate using normal
>>antennas.

WRONG - no way it can track multi-path

>>
>>"Beam-forming antennas are the key for enabling next-generation,
>>high-data-rate indoor wireless applications," says Anmol Sheth, at Intel
>>Labs in Seattle. "Without beam-forming antennas it would be difficult to
>>scale to the levels of density of wireless devices we expect to have in
>>future homes."

WRONG - try using another BAND, or encoding.

>>
>>There are two types of plasma antenna: semiconductor or solid-state
>>antennas, such as PSiAN, and gas antennas. Both could fit the bill, but
>>solid-state antennas are favoured as they are more compact and have no
>>moving parts.

SO WHAT ? All other antennas have NO MOVING PARTS.

Compact = Lossy and ineffecient.

>>That makes them attractive for use in a new generation of ultrafast Wi-Fi,
>>known as Wi-Gig. Existing Wi-Fi tops out at 54 megabits of data per
>>second,
>>whereas the Wi-Gig standard is expected to go up to between 1 and 7
>>gigabits
>>per second - fast enough to download a television programme in seconds.

WRONG - how far can you transmit ? a few INCHES ???

>>Wi-Gig requires higher radio wave frequencies, though: 60 gigahertz rather
>>than the 2.4 GHz used by Wi-Fi. Signals at these frequencies disperse
>>rapidly unless they are tightly focused, which is where PSiAN comes in.

Too Lossy. Only reason 60 GHz is FCC has an open band there.

>>Ian Russell, business development director at Plasma Antennas, says that
>>PSiAN is small enough to fit inside a cellphone. "Higher frequencies mean
>>shorter wavelengths and hence smaller antennas," he says. "The antenna
>>actually becomes cheaper at the smaller scales because you need less
>>silicon."

SO WHAT ? It cant transmit more than a centimeter, SI TOO LOSSY
-20 db antenna gain

>>
>>The antennas shouldn't raise any health issues, as they are covered by
>>existing safety standards.

WRONG - you have that BASS ACKWARDS

The narrow beam means there is less "overspill"
>>of radiation than with existing omnidirectional antennas.

WRONG ! - How is "overspill" on an omni bad ????

>>
>>"Semiconductor plasma antennas will work at only high frequencies, between
>>1
>>GHz and 100 GHz," says Anderson. "Theoretically, we see no upper or lower
>>bound to ionised gas antennas in the radio frequency spectrum."

WRONG - [also 100GHz you says is upper limit]

>>
>>Russell says that PSiAN could be commercially available within two years.
>>At
>>present, getting movies and high-quality images on and off our smartphones
>>almost certainly means hooking them into a computer. But as the demand for
>>such content increases, the only way to break the wire is going to be an
>>ultrafast wireless connection. When it comes, it may very well be in the
>>form of plasma.

WRONG - Plasma takes time to establish, UNLIKE Todays proven cheap reliable
EXISTING antenna technology(s)

>>
>
>
> Snake oil unless they can produce 1 (one) working example,
> which they don't.
>
> All they have is a grey box size of a small car.
>
>

> w.

7. Re: Wireless at the speed of plasma

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 03:39:40 UTC
From: Lawrence&#65533;Logic <lawrence-OmitThisBit-logic@amd-p.com>
Message-ID: <esSTo.6709$gM3.3300@viwinnwfe01.internal.bigpond.com>
Source record: 6008
Cross-posted to: rec.sport.cricket,sci.physics,talk.politics.misc,sci.med,rec.radio.amateur.antenna

```
"John" <nospam@spamless.com> wrote in message
news:4d1ff1ad$1@news.x-privat.org...
>
> "Helmut Wabnig" <hwabnig@.- --- -. DOTat> wrote in message
> news:5g4rh6tn7s50p6rgeb25cude6kodnn3s8t@4ax.com...
>> On Thu, 30 Dec 2010 19:15:19 -0800, "NSA TORTURE TECHNOLOGY, NEWS and
>> RESEARCH" <TortureTechnologyNResearch@yahoo.com> wrote:
>>
>
>>>Existing directional antennas that transmit high-frequency radio waves
>>>require expensive materials or precise manufacturing
>
> WRONG - cheap lands on PCboard.
>
>> This "beam-forming" capability makes the antennas crucial to
>>>ultrafast wireless applications, because they can focus a stream of
>>>high-frequency radio waves that would quickly dissipate using normal
>>>antennas.
>
> WRONG - no way it can track multi-path
>
>
>
>>>
>>>"Beam-forming antennas are the key for enabling next-generation,
>>>high-data-rate indoor wireless applications," says Anmol Sheth, at Intel
>>>Labs in Seattle. "Without beam-forming antennas it would be difficult to
>>>scale to the levels of density of wireless devices we expect to have in
>>>future homes."
>
> WRONG - try using another BAND, or encoding.
>
>
>>>
>>>There are two types of plasma antenna: semiconductor or solid-state
>>>antennas, such as PSiAN, and gas antennas. Both could fit the bill, but
>>>solid-state antennas are favoured as they are more compact and have no
>>>moving parts.
>
> SO WHAT ? All other antennas have NO MOVING PARTS.
>
> Compact = Lossy and ineffecient.
>
```

>
>>>That makes them attractive for use in a new generation of ultrafast
>>>Wi-Fi,
>>>known as Wi-Gig. Existing Wi-Fi tops out at 54 megabits of data per
>>>second,
>>>whereas the Wi-Gig standard is expected to go up to between 1 and 7
>>>gigabits
>>>per second - fast enough to download a television programme in seconds.
>
> WRONG - how far can you transmit ? a few INCHES ???
>
>
>>>Wi-Gig requires higher radio wave frequencies, though: 60 gigahertz
>>>rather
>>>than the 2.4 GHz used by Wi-Fi. Signals at these frequencies disperse
>>>rapidly unless they are tightly focused, which is where PSiAN comes in.
>
> Too Lossy. Only reason 60 GHz is FCC has an open band there.
>
>
>
>>>Ian Russell, business development director at Plasma Antennas, says that
>>>PSiAN is small enough to fit inside a cellphone. "Higher frequencies mean
>>>shorter wavelengths and hence smaller antennas," he says. "The antenna
>>>actually becomes cheaper at the smaller scales because you need less
>>>silicon."
>
> SO WHAT ? It cant transmit more than a centimeter, SI TOO LOSSY
> -20 db antenna gain
>
>
>>>
>>>The antennas shouldn't raise any health issues, as they are covered by
>>>existing safety standards.
>
> WRONG - you have that BASS ACKWARDS
>
>
>
> The narrow beam means there is less "overspill"
>>>of radiation than with existing omnidirectional antennas.
>
> WRONG ! - How is "overspill" on an omni bad ????
>
>
>>>
>>>"Semiconductor plasma antennas will work at only high frequencies,
>>>between 1
>>>GHz and 100 GHz," says Anderson. "Theoretically, we see no upper or lower
>>>bound to ionised gas antennas in the radio frequency spectrum."

>
> WRONG - [also 100GHz you says is upper limit]
>
>
>>>
>>>Russell says that PSiAN could be commercially available within two years.
>>>At
>>>present, getting movies and high-quality images on and off our
>>>smartphones
>>>almost certainly means hooking them into a computer. But as the demand
>>>for
>>>such content increases, the only way to break the wire is going to be an
>>>ultrafast wireless connection. When it comes, it may very well be in the
>>>form of plasma.
>
> WRONG - Plasma takes time to establish, UNLIKE Todays proven cheap
> reliable EXISTING antenna technology(s)
>

Well that just sucks! I was relying on plasma technology to accurately
resolve LBW appeals. What a complete bastard!!

--
Lawrence
"You can just hang outside in the sun all day tossing a ball around, or you
can sit at your computer and do something that matters." - Eric Cartman - 4
October 2006

8. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 10:54:06 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ifplgcmtj1@speranza.aioe.org>
Source record: 6009

>
> The topic is if the damped radio waves exhibit "redshift" with the
> distance.
> S*
>

No, the topic that you asked about is do sidebands change with distance.

But, yes radio waves do experience Doppler shift, damped or otherwise!

Jeff

9. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 13:22:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5939dd84-b6f2-4896-b745-0549e52a62c2@z9g2000yqz.googlegroups.com>
Source record: 6010

On Jan 1, 5:46 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

> In Maxwell's time were math for the longitudinal waves. I am sure that were
> such for electric waves also. But I am not interested in equations.
> Maxwell did the math for the rotational oscillations. It is still in use in
> engines area.

of course there was, because they didn't know any better yet. all
those theories have been proven wrong and dropped 100 years ago. if
you want to talk waves you MUST use the equations, they are what
provides the description of the fields. Maxwell did math for lots of
things unrelated to electromagnetics, that was a very interesting
time.

>
> What Heaviside did I do not know because I do not understand in what way the
> magnetic whirl appears around the wire.
> It is only the piece to teach the math.

if you don't know then why quote him?

> The topic is if the damped radio waves exhibit "redshift" with the distance.
> S*

no, damped waves do not exhibit redshift with distance, unless of
course they are from a distant galaxy that is moving away from us
rapidly!

10. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 17:25:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d20b524$0$2494$65785112@news.neostrada.pl>
Source record: 6011

"Jeff" jeff@jsystems.com wrote news:ifplgcmtj1@speranza.aioe.org...
> >
>> The topic is if the damped radio waves exhibit "redshift" with the
>> distance.
>> S*
>
> No, the topic that you asked about is do sidebands change with distance.

One sideband is "redshifted" and the second "blueshifted". AM waves have the
increasing/decreasing amplitudes. The damped also but there no symmetry.
Were the sidebands symmetric at the damped waves?
>
> But, yes radio waves do experience Doppler shift, damped or otherwise!

It is not distance dependent.
S*

11. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 17:37:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <7np6v7-lsf.ln1@mail.specsol.com>
Source record: 6012

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> One sideband is "redshifted" and the second "blueshifted". AM waves have the
> increasing/decreasing amplitudes. The damped also but there no symmetry.
> Were the sidebands symmetric at the damped waves?

Meaningless word salad gibberish.

Seek medical help.

--
Jim Pennino

Remove .spam.sux to reply.

12. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 17:48:07 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d20ba5b$0$2460$65785112@news.neostrada.pl>
Source record: 6013

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:5939dd84-b6f2-4896-b745-0549e52a62c2@z9g2000yqz.googlegroups.com...
On Jan 1, 5:46 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

>> In Maxwell's time were math for the longitudinal waves. I am sure that
>> were
> such for electric waves also. But I am not interested in equations.
>> Maxwell did the math for the rotational oscillations. It is still in use
>> in
> engines area.

>of course there was, because they didn't know any better yet. all
those theories have been proven wrong and dropped 100 years ago. if
you want to talk waves you MUST use the equations, they are what
provides the description of the fields.

Seperate "electric field", "magnetic field", gravity field" are for kids.

Charged body at rest produces the electric field but a moving body do not
produce the electric field but magnetic.
Do you understand it?

> Maxwell did math for lots of
things unrelated to electromagnetics, that was a very interesting
time.

Eg. 60 pages of equations for Saturn's rings.
>
>> What Heaviside did I do not know because I do not understand in what way
>> the
> magnetic whirl appears around the wire.
>> It is only the piece to teach the math.

>if you don't know then why quote him?

The citations were from Maxwell's papers and Wiki.

>> The topic is if the damped radio waves exhibit "redshift" with the
>> distance.
> S*

>no, damped waves do not exhibit redshift with distance, unless of
course they are from a distant galaxy that is moving away from us
rapidly!

Wiki wrote: "They initially interpreted these redshifts and blue shifts as
due solely to the Doppler effect, but later Hubble discovered a rough
correlation between the increasing redshifts and the increasing distance of

galaxies. Theorists almost immediately realized that these observations could be explained by a different mechanism for producing redshifts. Hubble's law of the correlation between redshifts and distances is required by models of cosmology derived from general relativity that have a metric expansion of space.[16] As a result, photons propagating through the expanding space are stretched, creating the cosmological redshift."

Photons are stretched with the distance.
Damped waves are like photons.
S*

13. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-02 19:51:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <92116454-e3c5-49e6-a7c5-a5bbde5f14a8@f2g2000vby.googlegroups.com>
Source record: 6014

On Jan 2, 5:48 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:5939dd84-b6f2-4896-b745-0549e52a62c2@z9g2000yqz.googlegroups.com...
> On Jan 1, 5:46 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> In Maxwell's time were math for the longitudinal waves. I am sure that
> >> were
> > > such for electric waves also. But I am not interested in equations.
> >> Maxwell did the math for the rotational oscillations. It is still in use
> >> in
> > > engines area.
> >of course there was, because they didn't know any better yet. all
>
> those theories have been proven wrong and dropped 100 years ago. if
> you want to talk waves you MUST use the equations, they are what
> provides the description of the fields.
>
> Seperate "electric field", "magnetic field", gravity field" are for kids.

of course, that is why you haven't learned enough to understand them
that way yet, you are below kids in understanding fields.

>
> Charged body at rest produces the electric field but a moving body do not
> produce the electric field but magnetic.
> Do you understand it?

do you understand that the electric field from a charged body at rest
does not propagate, it is static everywhere so there are no waves.

but what about if the body is at rest in one inertial frame and you
are moving past it in another one, do you see a magnetic field or
not?

>
> > Maxwell did math for lots of
>
> things unrelated to electromagnetics, that was a very interesting
> time.
>
> Eg. 60 pages of equations for Saturn's rings.
>
>
>
> >> What Heaviside did I do not know because I do not understand in what way
> >> the

> > magnetic whirl appears around the wire.
> >> It is only the piece to teach the math.
> >if you don't know then why quote him?
>
> The citations were from Maxwell's papers and Wiki.
>
> >> The topic is if the damped radio waves exhibit "redshift" with the
> >> distance.
> > S*
> >no, damped waves do not exhibit redshift with distance, unless of
>
> course they are from a distant galaxy that is moving away from us
> rapidly!
>
> Wiki wrote: "They initially interpreted these redshifts and blue shifts as
>
> due solely to the Doppler effect, but later Hubble discovered a rough
> correlation between the increasing redshifts and the increasing distance of
> galaxies. Theorists almost immediately realized that these observations
> could be explained by a different mechanism for producing redshifts.
> Hubble's law of the correlation between redshifts and distances is required
> by models of cosmology derived from general relativity that have a metric
> expansion of space.[16] As a result, photons propagating through the
> expanding space are stretched, creating the cosmological redshift."
>
> Photons are stretched with the distance.
> Damped waves are like photons.
> S*

now that is a good laugh... stretching photons would be quite a trick
since they don't exist in Maxwell's equations. damped waves may be
made of many photons, but they are not 'like' photons... they are just
another set of em waves propagating along just like any other.

14. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-03 08:37:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d218ae5$0$2438$65785112@news.neostrada.pl>
Source record: 6015

"K1TTT" <k1ttt@arrl.net> wrote
news:92116454-e3c5-49e6-a7c5-a5bbde5f14a8@f2g2000vby.googlegroups.com...
On Jan 2, 5:48 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Seperate "electric field", "magnetic field", gravity field" are for kids.

>of course, that is why you haven't learned enough to understand them
that way yet, you are below kids in understanding fields.

The only trouble for kids to remembe are the "hand rules".
Kids do not try to understand. They must remember.
Good memeory is most important in schools.

>
>> Charged body at rest produces the electric field but a moving body do not
> produce the electric field but magnetic.
>> Do you understand it?

>do you understand that the electric field from a charged body at rest
does not propagate, it is static everywhere so there are no waves.

But in antennas charge appears and disappears. Electric waves must appear.
Some Authors call them electrostatic waves.

>but what about if the body is at rest in one inertial frame and you
are moving past it in another one, do you see a magnetic field or
not?

No. No magnetic charge and no magnetic field.

>
>> Wiki wrote: "They initially interpreted these redshifts and blue shifts
>> as
>> due solely to the Doppler effect, but later Hubble discovered a rough
> correlation between the increasing redshifts and the increasing distance
> of
> galaxies. Theorists almost immediately realized that these observations
> could be explained by a different mechanism for producing redshifts.
> Hubble's law of the correlation between redshifts and distances is
> required
> by models of cosmology derived from general relativity that have a metric
> expansion of space.[16] As a result, photons propagating through the
> expanding space are stretched, creating the cosmological redshift."
>
>> Photons are stretched with the distance.
>> Damped waves are like photons.
> S*

>now that is a good laugh... stretching photons would be quite a trick since they don't exist in Maxwell's equations. damped waves may be made of many photons, but they are not 'like' photons... they are just another set of em waves propagating along just like any other.

With the decreased amplitudes:
http://en.wikipedia.org/wiki/File:Ondes_amorties.jpg
S*

15. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-03 16:20:12 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <si99v7-vqb.ln1@mail.specsol.com>
Source record: 6016

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:92116454-e3c5-49e6-a7c5-a5bbde5f14a8@f2g2000vby.googlegroups.com...
> On Jan 2, 5:48 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> >
>>> Seperate "electric field", "magnetic field", gravity field" are for kids.
>
>>of course, that is why you haven't learned enough to understand them
> that way yet, you are below kids in understanding fields.
>
> The only trouble for kids to remembe are the "hand rules".
> Kids do not try to understand. They must remember.
> Good memeory is most important in schools.

The "hand rules" were invented to be a memory aid, and that is all they
are, a memory aid.

>>> Charged body at rest produces the electric field but a moving body do not
>> produce the electric field but magnetic.
>>> Do you understand it?
>
>>do you understand that the electric field from a charged body at rest
> does not propagate, it is static everywhere so there are no waves.
>
> But in antennas charge appears and disappears. Electric waves must appear.
> Some Authors call them electrostatic waves.

Complete nonsense.

>>but what about if the body is at rest in one inertial frame and you
> are moving past it in another one, do you see a magnetic field or
> not?
>
> No. No magnetic charge and no magnetic field.
>
>>
>>> Wiki wrote: "They initially interpreted these redshifts and blue shifts
>>> as
>>> due solely to the Doppler effect, but later Hubble discovered a rough
>> correlation between the increasing redshifts and the increasing distance
>> of
>> galaxies. Theorists almost immediately realized that these observations
>> could be explained by a different mechanism for producing redshifts.
>> Hubble's law of the correlation between redshifts and distances is

>> required
>> by models of cosmology derived from general relativity that have a metric
>> expansion of space.[16] As a result, photons propagating through the
>> expanding space are stretched, creating the cosmological redshift."
>>
>>> Photons are stretched with the distance.
>>> Damped waves are like photons.
>> S*
>
>>now that is a good laugh... stretching photons would be quite a trick
> since they don't exist in Maxwell's equations. damped waves may be
> made of many photons, but they are not 'like' photons... they are just
> another set of em waves propagating along just like any other.
>
> With the decreased amplitudes:
> http://en.wikipedia.org/wiki/File:Ondes_amorties.jpg
> S*

Reposting the same shit in French does not make it applicable to EM radiation.

You are a babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.

16. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-03 17:41:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d220a4c$0$2436$65785112@news.neostrada.pl>
Source record: 6017
Body handling: Binary attachment payload not displayed: efe3f3c74634bc48f39670fd0e4b22fc.png

<jimp@specsol.spam.sux.com> wrote news:si99v7-vqb.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>> But in antennas charge appears and disappears. Electric waves must
>> appear.
>> Some Authors call them electrostatic waves.
>
> Complete nonsense.

"Waves in plasmas can be classified as electromagnetic or electrostatic
according to whether or not there is an oscillating magnetic field. Applying
Faraday's law of induction to plane waves, we find , implying that an
electrostatic wave must be purely longitudinal. An electromagnetic wave, in
contrast, must have a transverse component, but may also be partially
longitudinal. From: http://en.wikipedia.org/wiki/Waves_in_plasmas

In space is the rare plasma + dust.
S*
>

[One or more binary attachments are retained only in the source text.]

17. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-03 18:27:35 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <n1h9v7-55f.ln1@mail.specsol.com>
Source record: 6018

Szczepan Bialek <sz.bialek@wp.pl> wrote:
> [-- text/plain, encoding 7bit, charset: iso-8859-2, 21 lines --]
>
>
> <jimp@specsol.spam.sux.com> wrote news:si99v7-vqb.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>> But in antennas charge appears and disappears. Electric waves must
>>> appear.
>>> Some Authors call them electrostatic waves.
>>
>> Complete nonsense.
>
> "Waves in plasmas can be classified as electromagnetic or electrostatic
> according to whether or not there is an oscillating magnetic field. Applying
> Faraday's law of induction to plane waves, we find , implying that an
> electrostatic wave must be purely longitudinal. An electromagnetic wave, in
> contrast, must have a transverse component, but may also be partially
> longitudinal. From: http://en.wikipedia.org/wiki/Waves_in_plasmas
>
> In space is the rare plasma + dust.
> S*

Babbling nonsense.

Most of space is empty vacuum and "waves in plasma" has absolutely nothing
to do with real antennas, either on Earth or in space.

--
Jim Pennino

Remove .spam.sux to reply.

18. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-03 22:34:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <da7e9da2-3e1a-4892-9649-62d47032787e@d8g2000yqf.googlegroups.com>
Source record: 6019

On Jan 3, 5:41 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> <j...@specsol.spam.sux.com> wrotenews:si99v7-vqb.ln1@mail.specsol.com...
>
> > Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> >> But in antennas charge appears and disappears. Electric waves must
> >> appear.
> >> Some Authors call them electrostatic waves.
>
> > Complete nonsense.
>
> "Waves in plasmas can be classified as electromagnetic or electrostatic
> according to whether or not there is an oscillating magnetic field. Applying
> Faraday's law of induction to plane waves, we find , implying that an
> electrostatic wave must be purely longitudinal. An electromagnetic wave, in
> contrast, must have a transverse component, but may also be partially
> longitudinal. From:http://en.wikipedia.org/wiki/Waves_in_plasmas
>
> In space is the rare plasma + dust.
> S*

sure, and in the rare plasma of most of space omega-p goes to zero so
the remaining waves are pure electromagnetic. you can only support
those other wave types in a dense plasma as in the lower levels of the
solar atmosphere or in a confined plasma in a laboratory. you might
as well take the basic Maxwell's equations and claim they don't work
on the Earth's surface because air has a different dielectric constant
that in space... while this is true, the results are rarely measurably
different than free space.

19. Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 07:39:10 UTC
From: Ron Hinds <no_one@dont_spam_me.org>
Message-ID: <ifuir0fci1@news.eternal-september.org>
Source record: 6020

Hi - I'm an amateur radio newbie - don't even have a license yet (taking the Technician exam 1/15). I have a Kenwood TH-F6A and I'm looking for an antenna for use from home. This looks like a good one - and it's in my price range ;-) I'm wondering what you experts think of it for a beginner?

http://www.diamondantenna.net/d130j.html

Also, I thought this might make a good mobile antenna. But the instructions say don't use a magnetic mount. I'm really not interested in any kind of permanent mount. Why do they say not to use a magnetic mount?

http://www.diamondantenna.net/d220.html

Thanks in advance for taking the time to answer.

20. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 17:44:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d235c6b$0$2506$65785112@news.neostrada.pl>
Source record: 6021

"K1TTT" <k1ttt@arrl.net>wrote
news:da7e9da2-3e1a-4892-9649-62d47032787e@d8g2000yqf.googlegroups.com...
On Jan 3, 5:41 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> In space is the rare plasma + dust.
> S*

>sure, and in the rare plasma of most of space omega-p goes to zero so
the remaining waves are pure electromagnetic. you can only support
those other wave types in a dense plasma as in the lower levels of the
solar atmosphere or in a confined plasma in a laboratory. you might
as well take the basic Maxwell's equations and claim they don't work
on the Earth's surface because air has a different dielectric constant
that in space... while this is true, the results are rarely measurably
different than free space.

In plasma are electrons and ions. Like in metals.

Tesla known that: http://www.tfcbooks.com/tesla/1929-09-22.htm

":Up to 1896, however, I did not succeed in obtaining a positive
experimental proof of the existence of such a medium. But in that year I
brought out a new form of vacuum tube capable of being charged to any
desired potential, and operated it with effective pressures of about
4,000,000 volts. I produced cathodic and other rays of transcending
intensity. The effects, according to my view, were due to minute particles
of matter carrying enormous electrical charges, which, for want of a better
name, I designated as matter not further decomposable. Subsequently those
particles were called electrons."

You are still before the electron time:

""When Dr. Heinrich Hertz undertook his experiments from 1887 to 1889 his
object was to demonstrate a theory postulating a medium filling all space,
called the ether, which was structureless, of inconceivable tenuity and yet
solid and possessed of rigidity incomparably greater than that of the
hardest steel. He obtained certain results and the whole world acclaimed
them as an experimental verification of that cherished theory. But in
reality what he observed tended to prove just its fallacy".

But you are fine. Nothing wrong.
S*

21. Re: Fractal Sleeve for Monopoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 17:54:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iki6i6lkfurp9scsuqe9la4h9e3ctd86gh@4ax.com>
Source record: 6022

On Wed, 22 Dec 2010 05:13:39 -0800 (PST), Richard Fry <rfry@adams.net>
wrote:

>Observations from watching the YouTube video...

>The gain units used in the video are therefore unconventional, and
>need further
>definition.

Hi Richard,

Leave it at unconventional - that word's definition is well
understood.

>3. The relative field radiated by a conventional 1/4-wave vertical
>monopole
>driven against a perfectly conducting ground plane always is maximum
>in the
>horizontal plane. Such a system radiates virtually 100% of the matched
>power
>applied to its input terminals.

This reveals a common flaw found in vertical antenna analysis when
compared to AM antenna measurement conventions. Simply put, if you
lift the antenna off of an infinite plane, you lose 3dB. It is
demonstrable with even the meagerest of antenna modelers.

Chip's antenna is in the air, not on an infinite plane. A solid disk
replacing a field of radials does NOT constitute a replacement for an
infinite plane such as to recover the 3dB. This might account for the
bookkeeping error in the vendor's favor.

I believe somewhere in the tightly scripted presentation it was
asserted that there was no "figure 8" pattern as one would expect of
an antenna in free space.

The antenna is "apparently" in an anechoic chamber - or free space as
closely as can be approximated. There are no reports of the far field
envelope shape.

So let's mark it up to Chip's usual technique of loose suggestion
being passed off as a citation to then be wrapped back as a proof.

>Therefore the peak gain of that antenna system at resonance cannot be
>improved
>by putting a sleeve of any kind on the monopole.

I would dispute that. The evidence is sufficient insofar as the indication of change in the before/after display on instrumentation. Unless this is some form of parsing what "peak gain" means. What you write immediately following already conforms to that instrument display:
>
>The sleeve may change the shape of the radiation pattern of the system
>without
>the sleeve, though, which could change the field intensity at the
>location of
>the receiving antenna used in the test. This could account for the ~3
>dB
>improvement shown in their results when using the sleeve.

And by what you say above, this is the entirety of it. A thicker radiator - nothing less than has been covered in text for decades. You observe that below.

>4. Nothing is shown in the video about the amount of matched power at
>the
>feedpoint with and without the sleeve. If that is not held constant
>then the
>test will be flawed.

The instrumentation already takes care of that, and is discussed early in the presentation. I was doing this kind of bench work, with this kind of instrumentation, in this band, 20 years ago.

>5. The VSWR bandwidth of a monopole may be increased simply by using a
>larger
>cross-section conductor of "non-fractal" construction.

Of course - but that information doesn't sell product.

73's
Richard Clark, KB7QHC

22. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 18:26:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <20o6i61hpehrtd8alm390hv6i77r5l8spg@4ax.com>
Source record: 6023

On Mon, 3 Jan 2011 23:39:10 -0800, "Ron Hinds"
<no_one@dont_spam_me.org> wrote:

>Hi - I'm an amateur radio newbie - don't even have a license yet (taking the
>Technician exam 1/15). I have a Kenwood TH-F6A and I'm looking for an
>antenna for use from home. This looks like a good one - and it's in my price
>range ;-) I'm wondering what you experts think of it for a beginner?
>
>http://www.diamondantenna.net/d130j.html

Hi Ron,

Welcome to the possibly the last vestige of Amateur Radio hardware
experimentation.

Insofar as your antenna goes, it presents you with a learning
opportunity that far exceeds the material you will be tested for.
However, it does embody the significant first principles.

1. The correlation between physical size and wavelength.
2. The discussion of match.
3. Unfortunately it says nothing of the radiation pattern which has
very serious implications for use.

Let's return to item 1 and examine the antenna. The overall height
can be rounded to 2 meters for simplicity's sake (there is no reason
to be exact and this is sufficiently accurate enough for the moment).
Your coax connection goes somewhere near the middle of the structure
to make it a dipole - a vertical dipole of unusual shape, but still
within the terms of first principles, a dipole.

This makes it suitable for use on the 4M band by simple correlation
between size and wavelength. However, there is no 4M amateur band,
and the vendor claims down to 10M and below.

The paragraph above marks our transition in the discussion towards
match. By virtue of its shape (its unusual shape), it benefits from
being a match at frequencies that are outside of its 4M native band.
This is true for the frequencies on BOTH sides of this band. The long
and short of it is that YES, the antenna is a suitable load over the
entire range of frequencies, and this is of high interest to any Ham.

However, being a suitable load to your transmitter (the antenna
matching the transmitter's requirement for a particular size value,
often 50 Ohms resistive with little or no reactance) is only half of
what interests any Ham. The other half is how well does it radiate
towards my intended listener?

This brings us to item 3 listed above. At the lower frequencies (below 2M band), you can well allow that you will obtain a lack-luster performance. This antenna design is suited for multiband operation which sacrifices gain opportunity to achieve it. This is the see-saw of antenna design - and you choose what is most important at the cost to the other issues.

Further to item 3 is the fact that above the 2M band this antenna might well seriously disappoint. This is a first-pass observation, but on close examination, you have selected an antenna that is actually two in one. Look closely at the two distinct sets of spoking elements. The lower flaring down are chosen for the lower band, the upper, more horizontal are chosen for higher bands - such as 2M and 440. The antenna has been optimized to recover from the see-saw of conflicting choice (we ALL want an antenna with universal coverage and maximum gain knowing we can not have both, and worse, we can barely expect half than less).

Still, even with this hail Mary pass, above 440 the antenna is going to be a very poor performer in getting signal out towards the horizon (where your listener might be), and instead put it up into the air (where no one is, except satellites, model rockets, and airplanes).

So, this being a brief discussion (some might argue otherwise), more is left to be said in response to all the questions it might provoke.

>Also, I thought this might make a good mobile antenna. But the instructions
>say don't use a magnetic mount. I'm really not interested in any kind of
>permanent mount. Why do they say not to use a magnetic mount?
>
>http://www.diamondantenna.net/d220.html

Wind force and moment arm. It is a LOT of wire in the air for highway speeds. Trust the instructions.

73's
Richard Clark, KB7QHC

23. Re: Fractal Sleeve for Monopoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 18:57:01 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2d738982-b3e5-4376-97a4-88a979067243@39g2000yqa.googlegroups.com>
Source record: 6024

On Jan 4, 11:54 am, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 22 Dec 2010 05:13:39 -0800 (PST), Richard Fry <r...@adams.net>
> wrote:
>
> >Observations from watching the YouTube video...
> >The gain units used in the video are therefore unconventional, and
> >need further
> >definition.
>
> Hi Richard,
>
> Leave it at unconventional - that word's definition is well
> understood.
>
> >3. The relative field radiated by a conventional 1/4-wave vertical
> >monopole
> >driven against a perfectly conducting ground plane always is maximum
> >in the
> >horizontal plane. Such a system radiates virtually 100% of the matched
> >power
> >applied to its input terminals.
>
> This reveals a common flaw found in vertical antenna analysis when
> compared to AM antenna measurement conventions. Simply put, if you
> lift the antenna off of an infinite plane, you lose 3dB. It is
> demonstrable with even the meagerest of antenna modelers.
>
> Chip's antenna is in the air, not on an infinite plane. A solid disk
> replacing a field of radials does NOT constitute a replacement for an
> infinite plane such as to recover the 3dB. This might account for the
> bookkeeping error in the vendor's favor.
>
> I believe somewhere in the tightly scripted presentation it was
> asserted that there was no "figure 8" pattern as one would expect of
> an antenna in free space.
>
> The antenna is "apparently" in an anechoic chamber - or free space as
> closely as can be approximated. There are no reports of the far field
> envelope shape.
>
> So let's mark it up to Chip's usual technique of loose suggestion
> being passed off as a citation to then be wrapped back as a proof.
>
> >Therefore the peak gain of that antenna system at resonance cannot be

> >improved
> >by putting a sleeve of any kind on the monopole.
>
> I would dispute that. The evidence is sufficient insofar as the
> indication of change in the before/after display on instrumentation.
> Unless this is some form of parsing what "peak gain" means. What you
> write immediately following already conforms to that instrument
> display:
>
>
>
> >The sleeve may change the shape of the radiation pattern of the system
> >without
> >the sleeve, though, which could change the field intensity at the
> >location of
> >the receiving antenna used in the test. This could account for the ~3
> >dB
> >improvement shown in their results when using the sleeve.
>
> And by what you say above, this is the entirety of it. A thicker
> radiator - nothing less than has been covered in text for decades. You
> observe that below.
>
> >4. Nothing is shown in the video about the amount of matched power at
> >the
> >feedpoint with and without the sleeve. If that is not held constant
> >then the
> >test will be flawed.
>
> The instrumentation already takes care of that, and is discussed early
> in the presentation. I was doing this kind of bench work, with this
> kind of instrumentation, in this band, 20 years ago.
>
> >5. The VSWR bandwidth of a monopole may be increased simply by using a
> >larger
> >cross-section conductor of "non-fractal" construction.
>
> Of course - but that information doesn't sell product.
>
> 73's
> Richard Clark, KB7QHC

He is using a resonator to drive another radiater
(see constant impedance antenna system patent) The radiator that he
is driving is of multiple wavelength as in a wire mesh where the
multiple routes that can be taken by current flow provides an ultra
wide frequency span as the reactance changes become smaller and
smaller.
The final radiator is a full wave or more closed circuit version which
provides more gain than a fractional length over a ground plane

Very simple use of a metamaterial which has been demonstrated in most universities of the day.

24. ESD Protection ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 19:11:45 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ifvrdm$e4l$1@news.eternal-september.org>
Source record: 6025

Hello,

Have a new WinRadio receiver, and am a bit concerned about protecting
it's front end from possible damage due to ESD ElectroStatic Discharge,
effects, etc.

I do receiving only, and have an end-fed PAR antenna outside, feeding
the receiver by about a 30 foot run of coax from the antenna.
At the antenna, I have an ICE lightning protector, and a copper bar as a
ground point, there.

No idea if the ICE unit has a bleed resistor for dissipating any static
buildups.

Too advanced in years now to build anything myself incorporating Zeners,
Varistors, or whatever, so would like to find, if you folks feel it's
worth doing (?), a small box unit with bnc's on both end, that would
provide good and safe ESD protection that I would locate indoors right
next to the radio's input.

Any thoughts or suggestions ?
Brand, Model Number, or just forget as probably not needed ?

BTW: Nice article on ESD at:
http://www.ce-mag.com/archive/01/Spring/Lee.html

Thanks,
Bob

25. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 19:38:31 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ni9cv7-kpp.ln1@mail.specsol.com>
Source record: 6026

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> In plasma are electrons and ions. Like in metals.

A plasma is not "like in metals".

>
> Tesla known that: http://www.tfcbooks.com/tesla/1929-09-22.htm
>
> ":Up to 1896, however, I did not succeed in obtaining a positive
> experimental proof of the existence of such a medium. But in that year I
> brought out a new form of vacuum tube capable of being charged to any
> desired potential, and operated it with effective pressures of about
> 4,000,000 volts. I produced cathodic and other rays of transcending
> intensity. The effects, according to my view, were due to minute particles
> of matter carrying enormous electrical charges, which, for want of a better
> name, I designated as matter not further decomposable. Subsequently those
> particles were called electrons."

Free electrons in a vacuum are nothing like a plasma.

Free electrons in a vacuum are nothing like metal.

> You are still before the electron time:
>
> ""When Dr. Heinrich Hertz undertook his experiments from 1887 to 1889 his
> object was to demonstrate a theory postulating a medium filling all space,
> called the ether, which was structureless, of inconceivable tenuity and yet
> solid and possessed of rigidity incomparably greater than that of the
> hardest steel. He obtained certain results and the whole world acclaimed
> them as an experimental verification of that cherished theory. But in
> reality what he observed tended to prove just its fallacy".

Yep, they were all wrong; there is no "ether".

> But you are fine. Nothing wrong.
> S*

Yeah, we are fine, you are a babbling kook.

--
Jim Pennino

Remove .spam.sux to reply.

26. Re: ESD Protection ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-04 21:07:26 UTC
From: you <you@shadows.orgs>
Message-ID: <you-A802E5.12071804012011@news.starband.net>
Source record: 6027

In article <ifvrdm$e4l$1@news.eternal-september.org>,
Bob <rgsros@notme.invalid> wrote:

> Hello,
>
> Have a new WinRadio receiver, and am a bit concerned about protecting
> it's front end from possible damage due to ESD ElectroStatic Discharge,
> effects, etc.
>
> I do receiving only, and have an end-fed PAR antenna outside, feeding
> the receiver by about a 30 foot run of coax from the antenna.
> At the antenna, I have an ICE lightning protector, and a copper bar as a
> ground point, there.
>
> No idea if the ICE unit has a bleed resistor for dissipating any static
> buildups.
>
> Too advanced in years now to build anything myself incorporating Zeners,
> Varistors, or whatever, so would like to find, if you folks feel it's
> worth doing (?), a small box unit with bnc's on both end, that would
> provide good and safe ESD protection that I would locate indoors right
> next to the radio's input.
>
> Any thoughts or suggestions ?
> Brand, Model Number, or just forget as probably not needed ?
>
> BTW: Nice article on ESD at:
> http://www.ce-mag.com/archive/01/Spring/Lee.html
>
> Thanks,
> Bob

What most folks do is put Back to Back diodes, across the 50 Ohm input,
and that clamps the antenna input to .7 Vac before the diodes conduct.
You may have to replace the diodes if you get a discharge, but not until.

27. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-05 03:38:17 UTC
From: Ron Hinds <no_one@dont_spam_me.org>
Message-ID: <ig0p3a$mp1$1@news.eternal-september.org>
Source record: 6028

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:20o6i61hpehrtd8alm390hv6i77r5l8spg@4ax.com...
> On Mon, 3 Jan 2011 23:39:10 -0800, "Ron Hinds"
> <no_one@dont_spam_me.org> wrote:
>
>>Hi - I'm an amateur radio newbie - don't even have a license yet (taking
>>the
>>Technician exam 1/15). I have a Kenwood TH-F6A and I'm looking for an
>>antenna for use from home. This looks like a good one - and it's in my
>>price
>>range ;-) I'm wondering what you experts think of it for a beginner?
>>
>>http://www.diamondantenna.net/d130j.html
>
> Hi Ron,
>
> Welcome to the possibly the last vestige of Amateur Radio hardware
> experimentation.
>
> Insofar as your antenna goes, it presents you with a learning
> opportunity that far exceeds the material you will be tested for.
> However, it does embody the significant first principles.
>
> 1. The correlation between physical size and wavelength.
> 2. The discussion of match.
> 3. Unfortunately it says nothing of the radiation pattern which has
> very serious implications for use.
>
> Let's return to item 1 and examine the antenna. The overall height
> can be rounded to 2 meters for simplicity's sake (there is no reason
> to be exact and this is sufficiently accurate enough for the moment).
> Your coax connection goes somewhere near the middle of the structure
> to make it a dipole - a vertical dipole of unusual shape, but still
> within the terms of first principles, a dipole.
>
> This makes it suitable for use on the 4M band by simple correlation
> between size and wavelength. However, there is no 4M amateur band,
> and the vendor claims down to 10M and below.
>
> The paragraph above marks our transition in the discussion towards
> match. By virtue of its shape (its unusual shape), it benefits from
> being a match at frequencies that are outside of its 4M native band.
> This is true for the frequencies on BOTH sides of this band. The long
> and short of it is that YES, the antenna is a suitable load over the

> entire range of frequencies, and this is of high interest to any Ham.
>
> However, being a suitable load to your transmitter (the antenna
> matching the transmitter's requirement for a particular size value,
> often 50 Ohms resistive with little or no reactance) is only half of
> what interests any Ham. The other half is how well does it radiate
> towards my intended listener?
>
> This brings us to item 3 listed above. At the lower frequencies
> (below 2M band), you can well allow that you will obtain a lack-luster
> performance. This antenna design is suited for multiband operation
> which sacrifices gain opportunity to achieve it. This is the see-saw
> of antenna design - and you choose what is most important at the cost
> to the other issues.
>
> Further to item 3 is the fact that above the 2M band this antenna
> might well seriously disappoint. This is a first-pass observation,
> but on close examination, you have selected an antenna that is
> actually two in one. Look closely at the two distinct sets of spoking
> elements. The lower flaring down are chosen for the lower band, the
> upper, more horizontal are chosen for higher bands - such as 2M and
> 440. The antenna has been optimized to recover from the see-saw of
> conflicting choice (we ALL want an antenna with universal coverage and
> maximum gain knowing we can not have both, and worse, we can barely
> expect half than less).
>
> Still, even with this hail Mary pass, above 440 the antenna is going
> to be a very poor performer in getting signal out towards the horizon
> (where your listener might be), and instead put it up into the air
> (where no one is, except satellites, model rockets, and airplanes).
>
> So, this being a brief discussion (some might argue otherwise), more
> is left to be said in response to all the questions it might provoke.

Hi Richard,

Thanks for the detailed response. The Kenwood TH-F6A radio I intend to use
this antenna with is a handheld with 5W max output power. It is a 2m, 1.25m
and 70cm transceiver, with a separate wideband, all mode receiver built in
that has a capability from 0.1 - ~1300 MHz.

http://www.kenwoodusa.com/Communications/Amateur_Radio/Portables/TH-F6A

With that in mind, what is your opinion of the adequacy of this antenna?

>>Also, I thought this might make a good mobile antenna. But the
>>instructions
>>say don't use a magnetic mount. I'm really not interested in any kind of
>>permanent mount. Why do they say not to use a magnetic mount?
>>
>>http://www.diamondantenna.net/d220.html
>

> Wind force and moment arm. It is a LOT of wire in the air for highway
> speeds. Trust the instructions.

Thanks, I thought that might be the case. Again, keeping in mind the radio I intend to use, would this antenna be a good fit?

Ron Hinds

> 73's
> Richard Clark, KB7QHC

28. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-05 06:35:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v838i613o2ln7ffatpkushs1h3o910vard@4ax.com>
Source record: 6029

On Tue, 4 Jan 2011 19:38:17 -0800, "Ron Hinds"
<no_one@dont_spam_me.org> wrote:

>Hi Richard,
>
>Thanks for the detailed response. The Kenwood TH-F6A radio I intend to use
>this antenna with is a handheld with 5W max output power. It is a 2m, 1.25m
>and 70cm transceiver, with a separate wideband, all mode receiver built in
>that has a capability from 0.1 - ~1300 MHz.
>
>http://www.kenwoodusa.com/Communications/Amateur_Radio/Portables/TH-F6A

Hi Ron,

Generally speaking, the more functionality, the more tepid the
utility. However, as a 2m, 1.25m and 70cm transceiver paired with the
antenna you describe, you will have every opportunity to do quite
well. What could improve things? Raise the antenna higher! (No
matter how high it might be.) This is, after all, line-of-sight
operation. I can get into my buddy's 2M repeater 10 miles away, from
my basement with 125mW into an HT antenna; others that are closer have
to step out onto their back porch.

>With that in mind, what is your opinion of the adequacy of this antenna?

Above the 70cm band it is going to be deaf.

As I introduced my last response, this forum's best participation
comes through experimentation and construction. You could easily and
cheaply build your own 2m, 1.25m and 70cm transceiver antenna(s). The
difficult part may be in making them robust, or building something
similar as multi-band - nevertheless, building one that is adequate
takes no more than a simple SO-238 socket and five pieces of heavy
copper wire. A more elaborate one would have more wire and would
challenge you for insuring its robustness simply because you would
have to brace the extra wire in what is called a Discone Antenna
design.

The antenna you are contemplating is based on the Discone which is
notable for being multiband and very simple (although too many
websites mystify it - ask questions here).

Returning to the deafness above 70cm, this wavelength is verging on
being so small, that it would be a sin NOT to build your own antenna
for those high bands. This is something you can do at the kitchen
table in an evening during commercial breaks.

73's
Richard Clark, KB7QHC

29. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-05 06:55:49 UTC
From: Ron Hinds <no_one@dont_spam_me.org>
Message-ID: <ig14ll$7cf$1@news.eternal-september.org>
Source record: 6030

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:v838i613o2ln7ffatpkushs1h3o910vard@4ax.com...
>
> Returning to the deafness above 70cm, this wavelength is verging on
> being so small, that it would be a sin NOT to build your own antenna
> for those high bands. This is something you can do at the kitchen
> table in an evening during commercial breaks.

That sounds like fun! Where do I go to find out more?

30. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-05 16:27:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pj49i691t31lsvapk573innosbuactot6u@4ax.com>
Source record: 6031

On Tue, 4 Jan 2011 22:55:49 -0800, "Ron Hinds"
<no_one@dont_spam_me.org> wrote:

>
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:v838i613o2ln7ffatpkushs1h3o910vard@4ax.com...
>>
>> Returning to the deafness above 70cm, this wavelength is verging on
>> being so small, that it would be a sin NOT to build your own antenna
>> for those high bands. This is something you can do at the kitchen
>> table in an evening during commercial breaks.
>
>That sounds like fun! Where do I go to find out more?
>

Hi Ron,

Antenna design has many variables with frequency (or its inverse with
wavelength) being key among them.

This means, of course, that you must first select the frequency or
band of frequency you want to work (or to listen to).

Second, you would want to set some goal for gain over an ordinary
dipole or monopole (a misnomer as all antennas are dipoler, but this
term is universally acknowledge to informally mean a vertical).
Perhaps a dipole or monopole (vertical) is enough to begin with.

Third, you want to select the polarization you intend to work (or
listen to). This is extremely important for VHF/UHF because its
line-of-sight path is very polarization sensitive. Verticals will
"see" verticals. Horizontals will "see" horizontals. Verticals and
Horizontals will be blind to each other. This is sort of mixing
metaphors where previously I used the term "deaf," it amounts to the
same thing: "cross polarized" signals will NOT WORK. In the VHF/UHF
bands, casual use is vertical polarization; however, for serious DXers
it is often horizontal and that activity is usually confined to DX
bands within the VHF/UHF. By casual use I mean simplex between you
and someone else locally, or contacts through repeaters for greater,
but still local range.

Fourth, height is key to "seeing." And, as you are entering into
experimentation, you want to erect some pole that will be both
securely fastened when erected, but also lowerable so that you can
attach your design and transmission line to it. Here again is the
see-saw nature of design. You will be raising and lowering this more

than once, so plan on it ahead.

Fifth, once you have the first four thought through (if not actually achieved) you should observe one quality about antenna design: it is scaleable. This means that if you find an antenna described on the internet that embodies all of the considerations listed above BUT it is in the wrong band, then there is a simple solution. An example will serve to illustrate.

Let's suppose you run across a Discone Antenna design on the internet (it satisfies your need for multiband application, let's say). However, the author of the design reveals how it was set up for HF operation between 60M and 10M (a very do-able design, if somewhat unwieldy in construction). Your interest is not in HF (suppose), but rather in VHF. What to do?

The antenna you are considering, but which is too large, is too large by 10 times. Scaleability in antenna design answers this with: change the existing design to 1/10th of all physical lengths and widths.

TA DA! A broadband antenna that works 6M to 220MHz with the characteristics of the original size. What was formerly an unwieldy size is now more manageable by virtue of scaling.

Just do it.

The same logic applies to more complex designs (and less complex ones, certainly) that you might see touted on the internet.

Finally - there is no reason to expect that anything you find on the internet actually works as the author of the page may describe. In fact, the higher the content of gushing and exhortation, accompanied with a laundry list of claims, will give every indication of someone being out to lunch. Check in here for sanity checks. This may inspire long discussions that ramble through many posters here (so far, none have been inspired to dip their oar in this thread). This is the nature of newsgroup activity that often focuses on minutia. However, from the bulk of response, you will get the general sense.

73's
Richard Clark, KB7QHC

31. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-07 07:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1294383901@panix.com>
Source record: 6032
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

32. any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-08 02:07:57 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <vmhfi6l8u10ve4rc8i9i64hj3s975049cn@4ax.com>
Source record: 6033

Just got a honda element...any way to put a whip on it w/o cutting it?
thanks much

33. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-08 02:21:47 UTC
From: tom <news4792@taring.org>
Message-ID: <4d27ca38$0$6700$8046368a@newsreader.iphouse.net>
Source record: 6034

On 1/7/2011 8:07 PM, bpuharic wrote:
> Just got a honda element...any way to put a whip on it w/o cutting it?
> thanks much

Well there's always thru-the-glass. It's not the most efficient in my experience (which is limited with respect to these) but it seems to work well enough if you have a decent repeater system that is the target. One plus is that you can usually get most of the half wave above the roofline.

For all around flexibility I still like the simple quarter wave vertical for 2m FM. Enough high angle for metro downtown use, but that involves either holes or magnets.

tom
K0TAR

34. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-08 14:05:30 UTC
From: Dave Smirkenberg <smirk50@rocketmail.com>
Message-ID: <3dc9d753-2506-4297-a93c-c1013c1e3e59@e20g2000vbn.googlegroups.com>
Source record: 6035

On Jan 4, 2:39 am, "Ron Hinds" <no_one@dont_spam_me.org> wrote:
> Hi - I'm an amateur radio newbie - don't even have a license yet (taking the
> Technician exam 1/15). I have a Kenwood TH-F6A and I'm looking for an
> antenna for use from home. This looks like a good one - and it's in my price
> range ;-) I'm wondering what you experts think of it for a beginner?
>
> http://www.diamondantenna.net/d130j.html
>
> Also, I thought this might make a good mobile antenna. But the instructions
> say don't use a magnetic mount. I'm really not interested in any kind of
> permanent mount. Why do they say not to use a magnetic mount?
>
> http://www.diamondantenna.net/d220.html
>
> Thanks in advance for taking the time to answer.

Richard is providing a lot more info than me, but the reality is this:
5 watts is not going to do all that great. Your mileage may vary, but
a lot of that power will be eaten up by feedline losses.

Also, bear in mind that a multi band antenna is generally a compromise
on every band it works on.

And finally, a hundred bucks plus shipping is a ripoff for that
antenna in terms of performance. On 2 meters, 220, and 440 a jpole you
could make out of old curtain rods or scrap conduit for ZERO will work
as well or better.

Also, if you make antennas...do not just clone something. 75% of jpole
projects start with copper tubing you have to purchase. Nothing wrong
with that, but the reality is anything metal you can make long enough
will likely work fine. Most people who publish web how to's on Jpole
antennas are copying old designs. Designs get set in the mud and dry
out to the point that noobs get a mindset that nothing else can work
on account of seeing so much of the same thing.

A hundred bucks would go a long way toward some high quality feedline.
Save the money and build an antenna.

Dave

35. Re: ESD Protection ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-09 03:08:57 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <c01a39fa-ff8a-4016-a230-2d5674621a25@glegroupsg2000goo.googlegroups.com>
Source record: 6036

Does the radio have any coils in the front end? Like the old-time radios, a primary coil between the antenna and chassis ground. If it has coils, there is NO way for static electricity to build up beyond millivolts, since all is at DC ground.

Diodes and other devices across the input are invitations for disaster. They ALL fail open circuit, leaving the device available for destruction by next charge.

If you put anything across the antenna input, use an RF choke. At least when it goes, you will smell smoke.

My main antenna is a 160 meter horizontal loop up 35 feet. Fed with 125 ft. of 600 ohm feed line. The feed line connects to the internal balun in an antenna tuner which keeps the shack end of the antenna at ground potential. If I disconnect the feed line during an active thunder storm, I can immediately draw an arc of at least 1/4 inch. So, I leave all hooked up unless I switch the feed line directly to the shack ground. I have never had an ESD problem coming via the antenna, and I don't think you will either.

Paul, KD7HB

36. Re: ESD Protection ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-09 13:32:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7142556a-4059-41b9-98c2-75a9ff90724b@l22g2000vbp.googlegroups.com>
Source record: 6037

On Jan 4, 7:11 pm, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> Have a new WinRadio receiver, and am a bit concerned about protecting
> it's front end from possible damage due to ESD ElectroStatic Discharge,
> effects, etc.
>
> I do receiving only, and have an end-fed PAR antenna outside, feeding
> the receiver by about a 30 foot run of coax from the antenna.
> At the antenna, I have an ICE lightning protector, and a copper bar as a
> ground point, there.
>
> No idea if the ICE unit has a bleed resistor for dissipating any static
> buildups.
>
> Too advanced in years now to build anything myself incorporating Zeners,
> Varistors, or whatever, so would like to find, if you folks feel it's
> worth doing (?), a small box unit with bnc's on both end, that would
> provide good and safe ESD protection that I would locate indoors right
> next to the radio's input.
>
> Any thoughts or suggestions ?
> Brand, Model Number, or just forget as probably not needed ?
>
> BTW: Nice article on ESD at:
>   http://www.ce-mag.com/archive/01/Spring/Lee.html
>
> Thanks,
> Bob

unless the radio was shipped to you in a sealed esd protection bag and
had notes about what the esd handling requirements were, forget about
it and just plug it in and use it! ESD problems normally only apply
to bare integrated circuit leads and things connected to them like
pins on a card plugging into a computer motherboard. anything on an
external connector like where you would connect power and antennas
should already have sufficient protection for normal use.

37. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-09 17:52:35 UTC
From: joe <none@domain.invalid>
Message-ID: <igcsap$jc5$1@speranza.aioe.org>
Source record: 6038

bpuharic wrote:
> Just got a honda element...any way to put a whip on it w/o cutting it?
> thanks much

My older Element had plastic covers over the mounts for the roof rack.
Perhaps you can mount the antenna to the same brackets.

38. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-11 06:04:59 UTC
From: Ron Hinds <no_one@dont_spam_me.org>
Message-ID: <iggru6$v7v$1@news.eternal-september.org>
Source record: 6039

"Dave Smirkenberg" <smirk50@rocketmail.com> wrote in message
news:3dc9d753-2506-4297-a93c-c1013c1e3e59@e20g2000vbn.googlegroups.com...

> A hundred bucks would go a long way toward some high quality feedline.
> Save the money and build an antenna.
>
> Dave

Hi Dave,

Thanks for your comments. On the subject of feed line - which of these would
be better:

RG-8X
RG-8/U
RG-213/U

Thanks again for the reply.

- Ron

39. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-11 17:30:17 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4D2C93A9.5090709@jpl.nasa.gov>
Source record: 6040

Ron Hinds wrote:
> "Dave Smirkenberg" <smirk50@rocketmail.com> wrote in message
> news:3dc9d753-2506-4297-a93c-c1013c1e3e59@e20g2000vbn.googlegroups.com...
>
>> A hundred bucks would go a long way toward some high quality feedline.
>> Save the money and build an antenna.
>>
>> Dave
>
> Hi Dave,
>
> Thanks for your comments. On the subject of feed line - which of these would
> be better:
>
> RG-8X
> RG-8/U
> RG-213/U
>
> Thanks again for the reply.
>
> - Ron
>
>
>

RG-213 and RG-8 (both of which standards are actually obsolete, so you're buying RG-213 "type" cables) are basically the same.. roughly 0.4" in diameter, solid polyethylene dielectric, AWG13 inner conductor.

RG-8X is a smaller diameter foam dielectric cable which will have higher loss (because the conductors are physically smaller, so IR losses are higher).

There are tons and tons of other cables that may be better or worse for your application.

Are you looking for something for VHF and up? In that case, the foam dielectrics tend to be lower loss than the solid dielectric. foam dielectric 75 ohm coax (as used in cable TV systems) is pretty good from a loss standpoint at VHF and UHF, although you need to check the exact type (there are some pretty bad 75 ohm coaxes out there, too).

Do you care about exposure to the elements?
Does it need to be flexible?

Are you transmitting through it (e.g. is power handling important?)

40. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-12 06:47:39 UTC
From: Ron Hinds <no_one@dont_spam_me.org>
Message-ID: <igjiq5lga1@news.eternal-september.org>
Source record: 6041

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:4D2C93A9.5090709@jpl.nasa.gov...
> RG-213 and RG-8 (both of which standards are actually obsolete, so you're
> buying RG-213 "type" cables) are basically the same.. roughly 0.4" in
> diameter, solid polyethylene dielectric, AWG13 inner conductor.
>
> RG-8X is a smaller diameter foam dielectric cable which will have higher
> loss (because the conductors are physically smaller, so IR losses are
> higher).

Then of the three I mentioned, the RG-8/U would be best?

> There are tons and tons of other cables that may be better or worse for
> your application.
>
> Are you looking for something for VHF and up? In that case, the foam
> dielectrics tend to be lower loss than the solid dielectric. foam
> dielectric 75 ohm coax (as used in cable TV systems) is pretty good from a
> loss standpoint at VHF and UHF, although you need to check the exact type
> (there are some pretty bad 75 ohm coaxes out there, too).

Yes, I am mostly interested in 2m, 1.25m, amd 70cm at the moment. Most
cables I've seen - in my admittedly brief exposure - have been 50 ohm.
Wouldn't 75 ohm cause more loss?

> Do you care about exposure to the elements?

Yes, as it will be running from a roof antenna to the house. It is on the
north side of the building though, so the majority of it would not be
exposed to the sun.

> Does it need to be flexible?

Somewhat. Once in place it won't be moved around much, if at all.

> Are you transmitting through it (e.g. is power handling important?)

I hope to be ;-) I'm taking the Technician Class test Saturday! As for power
handling, all I have at the moment is a 5 watt max handheld. I am interested
in building a 50-100 watt power amp for it, though. You wouldn't happen to
know where I could find a schematic for such an animal, would you? Thanks so
much for your reply Jim!

41. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-12 09:49:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrniiqtvh.ahk.gsm@cable.mendelson.com>
Source record: 6042

Ron Hinds wrote:
> Then of the three I mentioned, the RG-8/U would be best?

I think you have completely lost sight of what you are doing. The radio in question is a handheld device, aka a "Handie-Talkie" or H/T. It is designed to work with the whip antenna that comes with it.

It may not get better reception or transmission with a larger antenna, and may actually do worse. The front end of the radio is not designed to handle large signals and it could easily overload and hear nothing.

Obvioulsy an outside antenna is needed if you are inside metal or poured concrete (due to the steel reinforcing bars) walls or in a car. In a wooden or plasterboard house, you may not get a lot of improvement nor need it.

You might think that a high gain antenna will improve your reception, but if there is a close station or repeater it will just blank out. It does not have to a ham transmitter, paging, VHF (fire/EMS, etc) will wipe out 2m, and UHF can disappear under a GMRS or land mobile system.

If you live out in the woods, then a decent outside antenna will help and a random wire or dipole will help with HF reception. In a big city, the ferrite bar (up to 7mHz) will be a noise magnet and you many not even be able to receive anything at all.

As for coax, good quality RG-6 coax will do fine, and you can get it almost anywhere. Make sure to use high quality COMPRESSION connectors and adaptors. The radio uses an SMA connector so you will need to get an SMA to F to connect it to the coax and the antenna will have a PL-259 (aka UHF) or "N" connector on it so you will need to get the connectors from a specialty shop.

You also want to get an external speaker and microphone as if you connect up a coax to it, you will destroy the radio. The stress on the antenna connector will cause it to break, or crack the circuit board it is connected to. If you epxect to hand hold the radio and talk on it, something stiff such as RG/213 may not last out a day of activity. :-(

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Those who cannot remember the past are condemned to misquote it.

42. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 04:28:06 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <d9484bea-e067-41a2-97e4-d542d08b66a4@w2g2000yqb.googlegroups.com>
Source record: 6043

On Jan 7, 6:21 pm, tom <news4...@taring.org> wrote:
> On 1/7/2011 8:07 PM, bpuharic wrote:
>
> > Just got a honda element...any way to put a whip on it w/o cutting it?
> > thanks much
>
> Well there's always thru-the-glass. It's not the most efficient in my
> experience (which is limited with respect to these) but it seems to work
> well enough if you have a decent repeater system that is the target.
> One plus is that you can usually get most of the half wave above the
> roofline.
>
> For all around flexibility I still like the simple quarter wave vertical
> for 2m FM. Enough high angle for metro downtown use, but that involves
> either holes or magnets.
>
> tom
> K0TAR

I saw a note from a guy who "cooked" part of his window with the thru-
the-glass approach. He said the film sandwiched in the safety glass
darkened from being heated. As I recall, he was using 50 watts.

This stuff is all trade-offs, eh?

43. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 05:21:31 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <db70dfd9-2034-4dfa-a89e-3ec2f40620b7@z19g2000yqb.googlegroups.com>
Source record: 6044

On Jan 8, 6:05 am, Dave Smirkenberg <smir...@rocketmail.com> wrote:
> On Jan 4, 2:39 am, "Ron Hinds" <no_one@dont_spam_me.org> wrote:
>
> > Hi - I'm an amateur radio newbie - don't even have a license yet (taking the
> > Technician exam 1/15). I have a Kenwood TH-F6A and I'm looking for an
> > antenna for use from home. This looks like a good one - and it's in my price
> > range ;-) I'm wondering what you experts think of it for a beginner?
>
> >http://www.diamondantenna.net/d130j.html
>
> > Also, I thought this might make a good mobile antenna. But the instructions
> > say don't use a magnetic mount. I'm really not interested in any kind of
> > permanent mount. Why do they say not to use a magnetic mount?
>
> >http://www.diamondantenna.net/d220.html
>
> > Thanks in advance for taking the time to answer.
>
> Richard is providing a lot more info than me, but the reality is this:
> 5 watts is not going to do all that great. Your mileage may vary, but
> a lot of that power will be eaten up by feedline losses.
>
> Also, bear in mind that a multi band antenna is generally a compromise
> on every band it works on.
>
> And finally, a hundred bucks plus shipping is a ripoff for that
> antenna in terms of performance. On 2 meters, 220, and 440 a jpole you
> could make out of old curtain rods or scrap conduit for ZERO will work
> as well or better.
>
> Also, if you make antennas...do not just clone something. 75% of jpole
> projects start with copper tubing you have to purchase. Nothing wrong
> with that, but the reality is anything metal you can make long enough
> will likely work fine. Most people who publish web how to's on Jpole
> antennas are copying old designs. Designs get set in the mud and dry
> out to the point that noobs get a mindset that nothing else can work
> on account of seeing so much of the same thing.
>
> A hundred bucks would go a long way toward some high quality feedline.
> Save the money and build an antenna.
>
> Dave

Amen!

I love to build antennas and I could not do it without some form of measurement device to determine the characteristics of the in-work project. I usually go by VSWR and alter the design in various ways (often slight changes to element lengths) to minimize the VSWR at my chosen freq. a VHF/UHF VSWR meter can be had for peanuts but a 250-dollar antenna analyzer will be in your future if you get a case of Antenna Fever. (Yeah, I have one.) However, as you are just getting started, try reading this: http://kb6nu.com/no-vhf-swr-meter-no-problem/

I like working in copper pipe at VHF and above. It's very durable and responds well to a Home Depot propane torch for so-called "sweat soldering." Copper pipe comes in several grades. The cheapest grade seems to make antennas that are just fine.

Welcome to the hobby.

"Sal"
KD6VKW

44. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 05:29:26 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <02c5f708-950f-4d95-a165-0306c22e7915@z9g2000yqz.googlegroups.com>
Source record: 6045

On Jan 12, 1:49 am, "Geoffrey S. Mendelson" <g...@mendelson.com>
wrote:
> Ron Hinds wrote:
> > Then of the three I mentioned, the RG-8/U would be best?
>
> I think you have completely lost sight of what you are doing. The radio in
> question is a handheld device, aka a "Handie-Talkie" or H/T. It is designed
> to work with the whip antenna that comes with it.
>
> It may not get better reception or transmission with a larger antenna,
> and may actually do worse. The front end of the radio is not designed to
> handle large signals and it could easily overload and hear nothing.
>
> Obvioulsy an outside antenna is needed if you are inside metal or poured
> concrete (due to the steel reinforcing bars) walls or in a car. In a wooden
> or plasterboard house, you may not get a lot of improvement nor need it.
>
> You might think that a high gain antenna will improve your reception, but
> if there is a close station or repeater it will just blank out. It does not
> have to a ham transmitter, paging, VHF (fire/EMS, etc) will wipe out 2m,
> and UHF can disappear under a GMRS or land mobile system.
>
> If you live out in the woods, then a decent outside antenna will help and
> a random wire or dipole will help with HF reception. In a big city, the
> ferrite bar (up to 7mHz) will be a noise magnet and you many not even be able
> to receive anything at all.
>
> As for coax, good quality RG-6 coax will do fine, and you can get it almost
> anywhere. Make sure to use high quality COMPRESSION connectors and adaptors.
> The radio uses an SMA connector so you will need to get an SMA to F to connect
> it to the coax and the antenna will have a PL-259 (aka UHF) or "N" connector
> on it so you will need to get the connectors from a specialty shop.
>
> You also want to get an external speaker and microphone as if you connect
> up a coax to it, you will destroy the radio. The stress on the antenna
> connector will cause it to break, or crack the circuit board it is connected
> to. If you epxect to hand hold the radio and talk on it, something stiff
> such as RG/213 may not last out a day of activity. :-(
>
> Geoff.
>
> --
> Geoffrey S. Mendelson N3OWJ/4X1GM
> Those who cannot remember the past are condemned to misquote it.

I always "pigtail" fat, stiff antenna cables if I'm using them on an HT. A pigtail is a short length of a small. lightweight cable that's sufficiently flexible to put no great strain on the HT connector. Since it's short, you don't lose significant signals. Some folks will claim that losses in the extra connectors and adapters are a big problem. Nope, not if they're properly made and installed.

"Sal"

45. Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 17:05:38 UTC
From: amdx <amdx@knology.net>
Message-ID: <401b3$4d2f3097$18ec6dd7$1455@KNOLOGY.NET>
Source record: 6046
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

Hi All,
Please look at this in fixed font.
I'm looking for understanding of a series to parallel conversion for
antenna matching.
I'm pretty sure I'm missing something, so point it out to me.
This is in regard to a crystal radio, so the match is for a low impedance
antenna to a high impedance tank circuit.
The antenna: R=58 ohms C=1072 ohms at 1Mhz.
The tank: L=240uh C=106pf Q = 1000
Tank Z =~1.5 Mohms
Here's my understanding of what I think I'm reading.
I put a matching capacitor in series with the antenna.
Antenna--> -----R-----C--------Match cap-----tank------ground.
and this is supposed to transform the circuit to this.
(Maybe better said, equivalent to this)

```
l------------l
l l
Antenna---> R C LC<---Tank
l l
l------------l
^
Ground
```

I calculate an 18.5pf cap for the match, making the antenna look like 58R
and 17pf.

So this; Antenna--> -----58R-----270pf--------Match
cap18.5pf-----1.5Mohms------ground.
This converts to;

```
l-----------------l
l l
Antenna--->58R 17pf 1.5M<---LC Tank at
l l Resonance
l-----------------l
^
Ground
```

And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
The purpose of which is to cause minimal loading of the tank by the antenna.
I don't understand how adding a series capacitor makes a parallel
conversion.
What do I misunderstand or do just need to believe the numbers.
Thanks, Mikek

46. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 17:24:06 UTC
From: amdx <amdx@knology.net>
Message-ID: <7bb0c$4d2f3506$18ec6dd7$26136@KNOLOGY.NET>
Source record: 6047
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

Ahh....1 should have said Series to Parallel Conversion.
Mikek

47. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 17:43:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j5dui6d7qi21p5bh1f8hjq75sl7ii0rdir@4ax.com>
Source record: 6048
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 11:05:38 -0600, "amdx" <amdx@knology.net> wrote:

>This is in regard to a crystal radio, so the match is for a low impedance
>antenna to a high impedance tank circuit.
> The antenna: R=58 ohms C=1072 ohms at 1Mhz.

Hi Mike,

Is this a fantasy antenna?

For the 58 Ohm resistive value, it would have to be about 300 feet
tall - not the size of operation one usually comes to expect for a
Xtal radio aficionado.

If it is that tall, it would exhibit 200 Ohms Inductive reactance (one
fifth of what you report, and the opposite sign).

Something doesn't wash here.

>I calculate an 18.5pf cap for the match, making the antenna look like 58R
>and 17pf.

58ï¿½j17 Ohms is still a complex impedance, and says nothing of match
which can only be expressed in terms of the expected load R.

>And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.

How that is arrived at is something of a mystery. By the numbers, you
describe a 26000:1 mismatch.

>The purpose of which is to cause minimal loading of the tank by the antenna.

Well, what you have described is sufficient mismatch to insure that.
The English reading of your sentence also is instructive: the tank is
isolated from the antenna, i.e. no signal is passed to it. This seems
to be counterproductive in regards to detection.

> I don't understand how adding a series capacitor makes a parallel
>conversion.

Haven't we been down this road some months ago?

73's
Richard Clark, KB7QHC

48. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 18:30:52 UTC
From: Greg Neill <gneillRE@MOVEsympatico.ca>
Message-ID: <xxHXo.25274$IN2.7769@unlimited.newshosting.com>
Source record: 6049
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

Richard Clark wrote:
>
> For the 58 Ohm resistive value, it would have to be about 300 feet
> tall - not the size of operation one usually comes to expect for a
> Xtal radio aficionado.
>
> If it is that tall, it would exhibit 200 Ohms Inductive reactance (one
> fifth of what you report, and the opposite sign).
>
> Something doesn't wash here.

Perhaps it's a longwire antenna, of crappy wire, parallel to
the ground?

49. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 18:42:01 UTC
From: amdx <amdx@knology.net>
Message-ID: <9f9f2$4d2f4749$18ec6dd7$30588@KNOLOGY.NET>
Source record: 6050
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:j5dui6d7qi21p5bh1f8hjq75sl7ii0rdir@4ax.com...
> On Thu, 13 Jan 2011 11:05:38 -0600, "amdx" <amdx@knology.net> wrote:
>
>>This is in regard to a crystal radio, so the match is for a low impedance
>>antenna to a high impedance tank circuit.
>> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
>
> Hi Mike,
>
> Is this a fantasy antenna?

It's an example from an article, I don't like the number either, seems like
maybe
2 to 12 ohms would be more realistic. I think the capacitance is ok.

> For the 58 Ohm resistive value, it would have to be about 300 feet
> tall - not the size of operation one usually comes to expect for a
> Xtal radio aficionado.
>
> If it is that tall, it would exhibit 200 Ohms Inductive reactance (one
> fifth of what you report, and the opposite sign).
>
> Something doesn't wash here.
>
Ok, how about just working with the concept.

>>I calculate an 18.5pf cap for the match, making the antenna look like 58R
>>and 17pf.
>
> 58j17 Ohms is still a complex impedance, and says nothing of match
> which can only be expressed in terms of the expected load R.

Sorry, I missed a math step, the R was converted to 1.5M.
see formula below.

>>And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.

> How that is arrived at is something of a mystery. By the numbers, you
> describe a 26000:1 mismatch.

Here's what is stated in the article:
" The concept is that at any given frequency, a parallel RC network has an
equivalent
series RC network, and vise versa. We can use this property to transform the

real component
of an impedance to a much higher or lower value.
As long as Xc series >> R series.
Xc (parallel) = Xc (series)
R (parallel) = XC^2 (series) / R (series)
The Xc of a 17pf at 1Mhz is 9368 Ohms.
To rewrite Rp= 9368^2 / R = 1.513 Mohms

The article then goes on to say,
The utility of this equivalence can be seen by choosing a sufficiently small
value of C series
(a large Xc series) A "small" resistance can then be transformed into a
"large" value.

>>The purpose of which is to cause minimal loading of the tank by the
>>antenna.

Mikek

50. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 19:24:43 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <20ce94aa-8205-438c-b6c9-6f9d6e43b272@f35g2000vbl.googlegroups.com>
Source record: 5951
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Jan 13, 9:05 am, "amdx" <a...@knology.net> wrote:
> Hi All,
> Please look at this in fixed font.
> I'm looking for understanding of a series to parallel conversion for
> antenna matching.
> I'm pretty sure I'm missing something, so point it out to me.
> This is in regard to a crystal radio, so the match is for a low impedance
> antenna to a high impedance tank circuit.
> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
> The tank: L=240uh C=106pf Q = 1000
> Tank Z =~1.5 Mohms
> Here's my understanding of what I think I'm reading.
> I put a matching capacitor in series with the antenna.
> Antenna--> -----R-----C--------Match cap-----tank------ground.
> and this is supposed to transform the circuit to this.
> (Maybe better said, equivalent to this)
>
>   l------------l
>   l   l
> Antenna---> R C   LC<---Tank
>   l   l
>   l------------l
>   ^
>   Ground
>
> I calculate an 18.5pf cap for the match, making the antenna look like 58R
> and 17pf.
>
> So this; Antenna--> -----58R-----270pf--------Match
> cap18.5pf-----1.5Mohms------ground.
> This converts to;
>   l-----------------l
>   l   l
> Antenna--->58R 17pf   1.5M<---LC Tank at
>   l   l   Resonance
>   l-----------------l
>   ^
>   Ground
>
> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
> The purpose of which is to cause minimal loading of the tank by the antenna.
> I don't understand how adding a series capacitor makes a parallel
> conversion.

> What do I misunderstand or do just need to believe the numbers.
>   Thanks, Mikek

Seems like it doesn't much matter whether the antenna is real or imagined; the point is rather what's going on when you couple a low impedance source to a parallel-resonant tank through a small capacitance...

Perhaps it will help you to think first about a low impedance source, let's say 50 ohms at 1.591MHz (1e7 radians/sec), that you want to couple to an (imaginary) inductor, 2.5mH with Qu=500 at that frequency, and maximize the energy transfer to the inductor. The inductance and Q implies that the effective series resistance of the inductor is 50 ohms. That means all we need to do is cancel out the inductive reactance, and we can do that with a series capacitance--that happens to be 4pF. That assumes the ESR of the capacitance is zero, or essentially zero.

But what if the inductor has 1/4 as much inductance, 0.625mH, same Qu? Then its effective series resistance is 1/4 as much, or 12.5 ohms, and to get the same energy dissipated in it, you need the current through it to be 2 times as large as before (constant R*I^2). The total capacitance to resonate the tank is 4 times as much: 16pF. If you divide that into two 8pF caps, one directly across the inductor and the other in series with the 50 ohm source, (very close to) half the tank's circulating current flows in each capacitor. For the same energy delivered to the coil, the voltage at the top of the inductor must be half as much as before. Since the coupling capacitor to the source is twice as large as it was before, the load impedance the source sees must be the same as before (50 ohms, as required for max energy transfer).

Carry that another step, to an inductor with 1/16 the original inductance and the same Qu=500, and you need 64pF to resonate it and 16pF to couple to it from the low impedance source. Now you divide up the total capacitance with 3/4 of it (48pF) directly across the inductor and 1/4 of it to the source. 3/4 of the tank's circulating current flows in the 48pF capacitor, and 1/4 of it in the 16pF to the source; the source once again sees a 50 ohm load (because the voltage at the top of the inductor is 1/4 of the original, and the capacitor coupling to the source is 4 times as large -- with the current in the source unchanged).

The key to understanding this coupling, to me, is the division of the tank's circulating current between the two capacitances, one directly across the coil and one in series with the source. The smaller the inductance (at constant Q), the more circulating current required for the same energy dissipation, and the smaller _percentage_of_total_resonating_capacitance_ for coupling to the (constant impedance) source.

Cheers,
Tom

51. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 19:27:24 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ignjmv$n7p$1@news.eternal-september.org>
Source record: 5952
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
On 1/13/2011 11:05 AM, amdx wrote:
> Hi All,
> Please look at this in fixed font.
> I'm looking for understanding of a series to parallel conversion for
> antenna matching.
> I'm pretty sure I'm missing something, so point it out to me.
> This is in regard to a crystal radio, so the match is for a low impedance
> antenna to a high impedance tank circuit.
> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
> The tank: L=240uh C=106pf Q = 1000
> Tank Z =~1.5 Mohms
> Here's my understanding of what I think I'm reading.
> I put a matching capacitor in series with the antenna.
> Antenna--> -----R-----C--------Match cap-----tank------ground.
> and this is supposed to transform the circuit to this.
> ( Maybe better said, equivalent to this)
>
> l------------l
> l l
> Antenna---> R C LC<---Tank
> l l
> l------------l
> ^
> Ground
>
> I calculate an 18.5pf cap for the match, making the antenna look like 58R
> and 17pf.
>
> So this; Antenna--> -----58R-----270pf--------Match
> cap18.5pf-----1.5Mohms------ground.
> This converts to;
> l-----------------l
> l l
> Antenna--->58R 17pf 1.5M<---LC Tank at
> l l Resonance
> l-----------------l
> ^
> Ground
>
> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
> The purpose of which is to cause minimal loading of the tank by the antenna.
> I don't understand how adding a series capacitor makes a parallel
> conversion.
```

> What do I misunderstand or do just need to believe the numbers.
> Thanks, Mikek

At resonance, the LC tank disappears and you are left with a 1.5 Meg equivalent of the tank losses.

Adding a small capacitance in series with your antenna gives you, effectively, an antenna that looks like a 58R in series with a 17 pF capacitor.

So now your circuit looks like:

```
58R---17pF-----|
|
1.5M
|
|
----
GND
```

I don't see any conversion at all.

John

52. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 19:55:02 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ignlaq$u45$1@news.eternal-september.org>
Source record: 5953
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
On 1/13/2011 11:05 AM, amdx wrote:
> Hi All,
> Please look at this in fixed font.
> I'm looking for understanding of a series to parallel conversion for
> antenna matching.
> I'm pretty sure I'm missing something, so point it out to me.
> This is in regard to a crystal radio, so the match is for a low impedance
> antenna to a high impedance tank circuit.
> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
> The tank: L=240uh C=106pf Q = 1000
> Tank Z =~1.5 Mohms
> Here's my understanding of what I think I'm reading.
> I put a matching capacitor in series with the antenna.
> Antenna--> -----R-----C--------Match cap-----tank------ground.
> and this is supposed to transform the circuit to this.
> ( Maybe better said, equivalent to this)
>
> l------------l
> l l
> Antenna---> R C LC<---Tank
> l l
> l------------l
> ^
> Ground
>
> I calculate an 18.5pf cap for the match, making the antenna look like 58R
> and 17pf.
>
> So this; Antenna--> -----58R-----270pf--------Match
> cap18.5pf-----1.5Mohms------ground.
> This converts to;
> l-----------------l
> l l
> Antenna--->58R 17pf 1.5M<---LC Tank at
> l l Resonance
> l-----------------l
> ^
> Ground
>
> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
> The purpose of which is to cause minimal loading of the tank by the antenna.
> I don't understand how adding a series capacitor makes a parallel
> conversion.
```

> What do I misunderstand or do just need to believe the numbers.
> Thanks, Mikek
>

Ah! After studying this for a while, I think I understand what you are driving at.

Convert series 58R and 17 pF to a parallel equivalent. That is, take the reciprocal of Z = 58 - 9368j to get Y = 661e-9 + 106.8e-6.

Now, what is the reciprocal of the real part of Y? That's 1/661e-9 or about 1.5 Meg. So, the real part of the parallel equivalent now looks like the resistance you are interested in.

Does this help?

Cheers,
John

53. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 20:22:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jhnui6lr3tq5o9bc6f6t43qm6hg7lcujej@4ax.com>
Source record: 5954
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 13:30:52 -0500, "Greg Neill"
<gneillRE@MOVEsympatico.ca> wrote:

>Richard Clark wrote:
>>
>> For the 58 Ohm resistive value, it would have to be about 300 feet
>> tall - not the size of operation one usually comes to expect for a
>> Xtal radio aficionado.
>>
>> If it is that tall, it would exhibit 200 Ohms Inductive reactance (one
>> fifth of what you report, and the opposite sign).
>>
>> Something doesn't wash here.
>
>Perhaps it's a longwire antenna, of crappy wire, parallel to
>the ground?
>

Hi Greg,

No, that would more likely result in a characteristic Z of 600 Ohms.
If by being close to ground you mean the 58 Ohms finds itself invested
in the dirt, well, yes that might be the case.

The long and short of it means that to investigate the problems of an
antenna "loading" a tank coil means that you really must understand
the antenna - not a simple thing as this thread will undoubtedly
reveal.

73's
Richard Clark, KB7QHC

54. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 20:41:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vnnui6l2gh20cidpk3jckpmmc6gsi0m37h@4ax.com>
Source record: 5955
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 12:42:01 -0600, "amdx" <amdx@knology.net> wrote:

>
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:j5dui6d7qi21p5bh1f8hjq75sl7ii0rdir@4ax.com...
>> On Thu, 13 Jan 2011 11:05:38 -0600, "amdx" <amdx@knology.net> wrote:
>>
>>>This is in regard to a crystal radio, so the match is for a low impedance
>>>antenna to a high impedance tank circuit.
>>> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
>>
>> Hi Mike,
>>
>> Is this a fantasy antenna?
>
> It's an example from an article, I don't like the number either, seems like
>maybe
>2 to 12 ohms would be more realistic. I think the capacitance is ok.

Hi Mike,

Then your intuition is firing on all cylinders, great.

>Here's what is stated in the article:
> " The concept is that at any given frequency, a parallel RC network has an
>equivalent
>series RC network, and vise versa.

This is classically true. The frill of "at any given frequency" can
be discarded.

>We can use this property to transform the
>real component
>of an impedance to a much higher or lower value.

This concept is not a "property," however; more a transformation (as
should be apparent in the original statement). In other words
concept
equivalent
property
transform
use four words to describe one thing - transform (plain and simple).

>As long as Xc series >> R series.
>Xc (parallel) = Xc (series)
>R (parallel) = XC^2 (series) / R (series)

> The Xc of a 17pf at 1Mhz is 9368 Ohms.
>To rewrite Rp= 9368^2 / R = 1.513 Mohms

Well, what looks like hand-waving is probably close to the numbers one could expect.

>The article then goes on to say,
>The utility of this equivalence can be seen by choosing a sufficiently small
>value of C series
>(a large Xc series) A "small" resistance can then be transformed into a
>"large" value.

The reason why I say hand-waving (and this is probably your gut reaction as to "why") is that the five lines of operations you quote starts with a presumed requirement and then proves it has been met.

What happens if Xc series << R series?
What happens if Xc series < R series?
What happens if Xc series = R series?
What happens if Xc series > R series?

This somewhat clouds the mystery for you of understanding Parallel to Series conversion. I wonder too. Are we dropping in a new component and stepping back with a wave and Voila! to find the Parallel circuit has suddenly been transformed? Yeah, that WOULD be a mystery.

And what is this Xc(parallel) and Xc(series) stuff?

Xc is stricty a function of pi, capacitance, and frequency.

And what is this R(parallel) and R(series) stuff?

R is a function of its, well, resistance. No variables to be found.

No doubt there is more to be extracted from this article.

73's
Richard Clark, KB7QHC

55. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 20:57:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c7pui6ppn98gc52qqo5th5asvcvp79ocpn@4ax.com>
Source record: 5956
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 12:41:53 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>No doubt there is more to be extracted from this article.

Upon review of other correspondents to your plight, ditch the article
and pick up an EE sophomore book on circuit analysis. The coverage
should be encompassed in the section (from my own copy) called
"Transform Driving Point Impedance and Admittance (Immittance)."

73's
Richard Clark, KB7QHC

56. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 21:04:55 UTC
From: Greg Neill <gneillRE@MOVEsympatico.ca>
Message-ID: <YNJXo.85733$hT6.19784@unlimited.newshosting.com>
Source record: 5957
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

Richard Clark wrote:

> If by being close to ground you mean the 58 Ohms finds itself invested
> in the dirt, well, yes that might be the case.
>

:-)

57. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 22:02:07 UTC
From: amdx <amdx@knology.net>
Message-ID: <a436$4d2f7649$18ec6dd7$17965@KNOLOGY.NET>
Source record: 5958
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"Greg Neill" <gneillRE@MOVEsympatico.ca> wrote in message
news:xxHXo.25274$IN2.7769@unlimited.newshosting.com...
> Richard Clark wrote:
>>
>> For the 58 Ohm resistive value, it would have to be about 300 feet
>> tall - not the size of operation one usually comes to expect for a
>> Xtal radio aficionado.
>>
>> If it is that tall, it would exhibit 200 Ohms Inductive reactance (one
>> fifth of what you report, and the opposite sign).
>>
>> Something doesn't wash here.
>
> Perhaps it's a longwire antenna, of crappy wire, parallel to
> the ground?
>
>
The author said it was an antenna in his attic.
That's all I know.
Mikek

58. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 22:18:35 UTC
From: amdx <amdx@knology.net>
Message-ID: <8398c$4d2f7a0c$18ec6dd7$10631@KNOLOGY.NET>
Source record: 5959
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:vnnui6l2gh20cidpk3jckpmmc6gsi0m37h@4ax.com...
> On Thu, 13 Jan 2011 12:42:01 -0600, "amdx" <amdx@knology.net> wrote:
>
>>
>>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>>news:j5dui6d7qi21p5bh1f8hjq75sl7ii0rdir@4ax.com...
>>> On Thu, 13 Jan 2011 11:05:38 -0600, "amdx" <amdx@knology.net> wrote:
>>>
>>>>This is in regard to a crystal radio, so the match is for a low
>>>>impedance
>>>>antenna to a high impedance tank circuit.
>>>> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
>>>
>>> Hi Mike,
>>>
>>> Is this a fantasy antenna?
>>
>> It's an example from an article, I don't like the number either, seems
>> like
>>maybe
>>2 to 12 ohms would be more realistic. I think the capacitance is ok.
>
> Hi Mike,
>
> Then your intuition is firing on all cylinders, great.
>
>>Here's what is stated in the article:
>> " The concept is that at any given frequency, a parallel RC network has
>> an
>>equivalent
>>series RC network, and vise versa.
>
> This is classically true. The frill of "at any given frequency" can
> be discarded.
>
>>We can use this property to transform the
>>real component
>>of an impedance to a much higher or lower value.
>
> This concept is not a "property," however; more a transformation (as
> should be apparent in the original statement). In other words
> concept
```

> equivalent
> property
> transform
> use four words to describe one thing - transform (plain and simple).
>
>>As long as Xc series >> R series.
>>Xc (parallel) = Xc (series)
>>R (parallel) = XC^2 (series) / R (series)
>> The Xc of a 17pf at 1Mhz is 9368 Ohms.
>>To rewrite Rp= 9368^2 / R = 1.513 Mohms
>
> Well, what looks like hand-waving is probably close to the numbers one
> could expect.
>
>>The article then goes on to say,
>>The utility of this equivalence can be seen by choosing a sufficiently
>>small
>>value of C series
>>(a large Xc series) A "small" resistance can then be transformed into a
>>"large" value.
>
> The reason why I say hand-waving (and this is probably your gut
> reaction as to "why") is that the five lines of operations you quote
> starts with a presumed requirement and then proves it has been met.
>
> What happens if Xc series << R series?
> What happens if Xc series < R series?
> What happens if Xc series = R series?
> What happens if Xc series > R series?
>
> This somewhat clouds the mystery for you of understanding Parallel to
> Series conversion. I wonder too. Are we dropping in a new component
> and stepping back with a wave and Voila! to find the Parallel circuit
> has suddenly been transformed? Yeah, that WOULD be a mystery.

The article's focus is on matching a crystal radio tank to the antenna,
So as a general statement, the tank is a high impedance (mostly R)
and the antenna has a low R and a C in the 100's of ohms.
So I don't know, is that (>>) ? The question is retorical in nature.

> And what is this Xc(parallel) and Xc(series) stuff?

I took a little liberty there, The article had a schematic diagram showing
a series RC, then the radio showing the Parallel equivalent antenna
connected.
The the actual labels were Xs, Xp, Rs, and Rp.
Sorry if I muddied it, the attempt was to make it clearer.

> Xc is stricty a function of pi, capacitance, and frequency.
>
> And what is this R(parallel) and R(series) stuff?

>
> R is a function of its, well, resistance. No variables to be found.
>
> No doubt there is more to be extracted from this article.
>
> 73's
> Richard Clark, KB7QHC

59. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 22:27:38 UTC
From: amdx <amdx@knology.net>
Message-ID: <9e873$4d2f7c2b$18ec6dd7$11171@KNOLOGY.NET>
Source record: 5960
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"K7ITM" <k7itm@msn.com> wrote in message
news:20ce94aa-8205-438c-b6c9-6f9d6e43b272@f35g2000vbl.googlegroups.com...
On Jan 13, 9:05 am, "amdx" <a...@knology.net> wrote:
> Hi All,
> Please look at this in fixed font.
> I'm looking for understanding of a series to parallel conversion for
> antenna matching.
> I'm pretty sure I'm missing something, so point it out to me.
> This is in regard to a crystal radio, so the match is for a low impedance
> antenna to a high impedance tank circuit.
> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
> The tank: L=240uh C=106pf Q = 1000
> Tank Z =~1.5 Mohms
> Here's my understanding of what I think I'm reading.
> I put a matching capacitor in series with the antenna.
> Antenna--> -----R-----C--------Match cap-----tank------ground.
> and this is supposed to transform the circuit to this.
> (Maybe better said, equivalent to this)
>
> l------------l
> l l
> Antenna---> R C LC<---Tank
> l l
> l------------l
> ^
> Ground
>
> I calculate an 18.5pf cap for the match, making the antenna look like 58R
> and 17pf.
>
> So this; Antenna--> -----58R-----270pf--------Match
> cap18.5pf-----1.5Mohms------ground.
> This converts to;
> l-----------------l
> l l
> Antenna--->58R 17pf 1.5M<---LC Tank at
> l l Resonance
> l-----------------l
> ^
> Ground
>
> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
> The purpose of which is to cause minimal loading of the tank by the

> antenna.
> I don't understand how adding a series capacitor makes a parallel
> conversion.
> What do I misunderstand or do just need to believe the numbers.
> Thanks, Mikek

Seems like it doesn't much matter whether the antenna is real or imagined; the point is rather what's going on when you couple a low impedance source to a parallel-resonant tank through a small capacitance...

Perhaps it will help you to think first about a low impedance source, let's say 50 ohms at 1.591MHz (1e7 radians/sec), that you want to couple to an (imaginary) inductor, 2.5mH with Qu=500 at that frequency, and maximize the energy transfer to the inductor. The inductance and Q implies that the effective series resistance of the inductor is 50 ohms. That means all we need to do is cancel out the inductive reactance, and we can do that with a series capacitance--that happens to be 4pF. That assumes the ESR of the capacitance is zero, or essentially zero.

But what if the inductor has 1/4 as much inductance, 0.625mH, same Qu? Then its effective series resistance is 1/4 as much, or 12.5 ohms, and to get the same energy dissipated in it, you need the current through it to be 2 times as large as before (constant R*I^2). The total capacitance to resonate the tank is 4 times as much: 16pF. If you divide that into two 8pF caps, one directly across the inductor and the other in series with the 50 ohm source, (very close to) half the tank's circulating current flows in each capacitor. For the same energy delivered to the coil, the voltage at the top of the inductor must be half as much as before. Since the coupling capacitor to the source is twice as large as it was before, the load impedance the source sees must be the same as before (50 ohms, as required for max energy transfer).

Carry that another step, to an inductor with 1/16 the original inductance and the same Qu=500, and you need 64pF to resonate it and 16pF to couple to it from the low impedance source. Now you divide up the total capacitance with 3/4 of it (48pF) directly across the inductor and 1/4 of it to the source. 3/4 of the tank's circulating current flows in the 48pF capacitor, and 1/4 of it in the 16pF to the source; the source once again sees a 50 ohm load (because the voltage at the top of the inductor is 1/4 of the original, and the capacitor coupling to the source is 4 times as large -- with the current in the source unchanged).

The key to understanding this coupling, to me, is the division of the tank's circulating current between the two capacitances, one directly across the coil and one in series with the source. The smaller the inductance (at constant Q), the more circulating current required for the same energy dissipation, and the smaller _percentage_of_total_resonating_capacitance_ for coupling to the

(constant impedance) source.

Cheers,
Tom

Tom I need to print this out and work with it.
Did you change the inductor on purpose or just miss a
factor of ten from the numbers I posted?
Thanks, Mikek

60. Re: Improving clock radio FM reception

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-13 23:56:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j54vi69femm2vqljt99esfvk8posba14hs@4ax.com>
Source record: 5961

On Thu, 13 Jan 2011 20:02:39 +0000, Jake W.
<Jake.W..7753c78@radiobanter.com> wrote:

>
>I am having a very specific problem with two radios in my apartment.
>One is a clock radio; the other is a shelf audio system. Both have
>digital tuners and happen to be made by Sony.
>
>The only FM station I listen to is 93.9, which is my local public radio
>station. Neither of these radios has ever had a problem receiving this
>station in the past (I live right downtown). I moved apartments and now
>both of these radios (a) have trouble receiving this station and (b)
>often play a different station, 95.5, when tuned to 93.9.
>
>I have tried various antenna configurations for the shelf system and
>placements of the clock radio. Sometimes I can improve the reception of
>93.9, but other times, my efforts just increase the interference from
>95.5 to the point where all I hear is that station.
>
>What's going on here?
>
>NB: There is also an analog-tuned clock radio on the other side of the
>bed, which seems to have no trouble with this.

Hi Jake,

Sounds like the two Sonys are being overwhelmed by a strong local
station. They have no front-end tuning to make them as selective as
your, as you describe, analog tuned clock radio.

73's
Richard Clark, KB7QHC

61. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 00:05:17 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d2f9340$0$2050$4fafbaef@reader1.news.tin.it>
Source record: 5962
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

Mikek,

on of the main problem of this newsgroup is that people write answers without carefully reading the question.

Everyone tends to "convert" the question toward issues he is able to write something about, Unfortunately those issues often have little to do with the original question.

I am offering you my answer, which may be clear, so and.so, or hardly understandable ... I do not know. But be sure that at least I paid maximum efforts to appreciate your question (though my numbers do not always match yours). I'll try to explain the issue in the easiest way I can, assumimng that all components behave in an ideal manner.

Let us first resume your hypotheses:

- the antenna has an impedance equal to the SERIES of a 58-ohm resistance and a capacitive reactance of -1,072 ohms which, at 1 MHz, corresponds to a 148.5-pF capacitance
- your aim is to transform that complex impedance into a 1.5-Mohm purely-resistive impedance, that would match that of your tank circuit.

That said, you must first appreciate that your antenna can be visualized in two ways:

- as the SERIES of R=58ohm, C=148.5pF (as said above)
- or, by applying the series-to-parallel transformation formula, as the PARALLEL of R=19,862ohm, C=148.1pF

These are just two fully equivalent ways of describing the same physical antenna. You can freely use the one which suits you best. For our purposes let us here visualize your antenna as the parallel of R=19,862ohm, C=148.1pF.

That said, assume for a moment that you are able to eliminate in some way (i'll tell you after how) the 148.1-pF parallel capacitance. What would then remain is a 19,862-ohm resistance, a value which unfortunately does not match the 1.5-Mohm figure you wish to get.

So, how to get just 1.5Mohm instead?

Playing with the transformation formulas you would realize that, if the SERIES representation of your antenna would hypothetically be R=58 ohm, C=54 pF (instead of R=58 ohm, C=148.5 pF as it is in the reality), the corresponding PARALLEL representation would then become R=1.5Mohm, C=53.9 pF. Just the resistance value you wish to get!

But modifying the SERIES representation of your antenna according to your needs is very easy: if you put an 85-pF capacitance in series with the antenna, its total capacitance would change from C=148.1 pF to C=54pf. And the antenna SERIES representation would then become R=58 ohm, C=54 pF, as you were aiming at.

Once you have put such 85-pF capacitance in series with your antenna, its PARALLEL representation becomes R=1.5 MHohm, C=53.9 pF, as said earlier.

For removing the 53.9-pF residual parallel capacitance, just resonate it with a 470-uH parallel inductance. The trick is then done: what remains is just the 1.5-Mohm resistance you wanted to get!

In summary:
- put a 85-pF in series (i.e. in between your antenna and the tank circuit)
- put a 470uH inductance in parallel to the tank (in practice this just means to increase the tank inductance by 470uH with respect to its nominal value).

73

Tony I0IX
Rome, Italy

62. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 00:20:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m94vi6l8qoa5q9ghhdi4teifm9il4d5rbs@4ax.com>
Source record: 5963
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 16:18:35 -0600, "amdx" <amdx@knology.net> wrote:

>
>The article's focus is on matching a crystal radio tank to the antenna,
> So as a general statement, the tank is a high impedance (mostly R)

Hi Mike,

There's your first mistake. Tank Z is never, ever "mostly R," or you wouldn't be able to make the Q claim of 1000 (or even 10).

Please note the distinction between Z (which includes R) and R in isolation. Further, read Terman's material on Tank Circuits in his classic "Electronic and Radio Engineering" to clear up the clouds that obscure the view of their design rationale.

>and the antenna has a low R and a C in the 100's of ohms.

This is the sad (and useful) fate of short antennas, yes.

> So I don't know, is that (>>) ? The question is retorical in nature.

It is usually rhetorical, yes, insofar as not being enumerated. Often in technology it is a shorthand for a 10:1 ratio. Perhaps 100:1.

>> And what is this Xc(parallel) and Xc(series) stuff?
>
> I took a little liberty there, The article had a schematic diagram showing
>a series RC, then the radio showing the Parallel equivalent antenna
>connected.
>The the actual labels were Xs, Xp, Rs, and Rp.
> Sorry if I muddied it, the attempt was to make it clearer.

I could follow Xc(parallel/series) easily enough, but what you neglected to mention was there are two schematics embodied in the single one you brought to the discussion.

Making questions simpler often leads to Byzantine answers.

Another problem in this simplification is that there is more than one agenda being served, and they sometimes conflict with any single solution. As often happens, when I ask "What do you really want?" I get a response, I offer a solution, and I am immediately rebuffed that it does not serve the other agenda - which, then leads me to ask "What do you really want?"

73's
Richard Clark, KB7QHC

63. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 00:34:23 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <igo5mkshu1@news.eternal-september.org>
Source record: 5964
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On 1/13/2011 6:05 PM, Antonio Vernucci wrote:
> Mikek,
>
> on of the main problem of this newsgroup is that people write answers
> without carefully reading the question.
>
> Everyone tends to "convert" the question toward issues he is able to
> write something about, Unfortunately those issues often have little to
> do with the original question.
>
> I am offering you my answer, which may be clear, so and.so, or hardly
> understandable ... I do not know. But be sure that at least I paid
> maximum efforts to appreciate your question (though my numbers do not
> always match yours). I'll try to explain the issue in the easiest way I
> can, assumimng that all components behave in an ideal manner.
>
> Let us first resume your hypotheses:
>
> - the antenna has an impedance equal to the SERIES of a 58-ohm
> resistance and a capacitive reactance of -1,072 ohms which, at 1 MHz,
> corresponds to a 148.5-pF capacitance
> - your aim is to transform that complex impedance into a 1.5-Mohm
> purely-resistive impedance, that would match that of your tank circuit.
>
> That said, you must first appreciate that your antenna can be visualized
> in two ways:
>
> - as the SERIES of R=58ohm, C=148.5pF (as said above)
> - or, by applying the series-to-parallel transformation formula, as the
> PARALLEL of R=19,862ohm, C=148.1pF
>
> These are just two fully equivalent ways of describing the same physical
> antenna. You can freely use the one which suits you best. For our
> purposes let us here visualize your antenna as the parallel of
> R=19,862ohm, C=148.1pF.
>
> That said, assume for a moment that you are able to eliminate in some
> way (i'll tell you after how) the 148.1-pF parallel capacitance. What
> would then remain is a 19,862-ohm resistance, a value which
> unfortunately does not match the 1.5-Mohm figure you wish to get.
>
> So, how to get just 1.5Mohm instead?
>

> Playing with the transformation formulas you would realize that, if the
> SERIES representation of your antenna would hypothetically be R=58 ohm,
> C=54 pF (instead of R=58 ohm, C=148.5 pF as it is in the reality), the
> corresponding PARALLEL representation would then become R=1.5Mohm,
> C=53.9 pF. Just the resistance value you wish to get!
>
> But modifying the SERIES representation of your antenna according to
> your needs is very easy: if you put an 85-pF capacitance in series with
> the antenna, its total capacitance would change from C=148.1 pF to
> C=54pf. And the antenna SERIES representation would then become R=58
> ohm, C=54 pF, as you were aiming at.

Antonio - I think you slipped a decimal point. The parallel equivalent
of the series combo 58R-2947j is actually 149k+2948j.

> Once you have put such 85-pF capacitance in series with your antenna,
> its PARALLEL representation becomes R=1.5 MHohm, C=53.9 pF, as said
> earlier.
>
> For removing the 53.9-pF residual parallel capacitance, just resonate it
> with a 470-uH parallel inductance. The trick is then done: what remains
> is just the 1.5-Mohm resistance you wanted to get!
>
> In summary:
> - put a 85-pF in series (i.e. in between your antenna and the tank circuit)
> - put a 470uH inductance in parallel to the tank (in practice this just
> means to increase the tank inductance by 470uH with respect to its
> nominal value).
>
> 73
>
> Tony I0IX
> Rome, Italy
>

64. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 00:37:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sd6vi6tlgm773nqq40d8qqdn3gk0us2cup@4ax.com>
Source record: 5965
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Fri, 14 Jan 2011 01:05:17 +0100, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>In summary:
>- put a 85-pF in series (i.e. in between your antenna and the tank circuit)
>- put a 470uH inductance in parallel to the tank (in practice this just means to
>increase the tank inductance by 470uH with respect to its nominal value).

Hi Tony,

Great walk-through, excellent solution. And the appearance of Two
additional, unstated components. Are they found in the original text
of the article? Possibly not and thus the source of mystery (and a
cautionary tale about what might be found as knowledge on the
Internet).

73's
Richard Clark, KB7QHC

65. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 01:47:27 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <c52c758c-e6d7-4341-8b3e-cd4f61ee869f@m35g2000vbn.googlegroups.com>
Source record: 5966
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
On Jan 13, 2:27 pm, "amdx" <a...@knology.net> wrote:
> "K7ITM" <k7...@msn.com> wrote in message
>
> news:20ce94aa-8205-438c-b6c9-6f9d6e43b272@f35g2000vbl.googlegroups.com...
> On Jan 13, 9:05 am, "amdx" <a...@knology.net> wrote:
>
>
>
> > Hi All,
> > Please look at this in fixed font.
> > I'm looking for understanding of a series to parallel conversion for
> > antenna matching.
> > I'm pretty sure I'm missing something, so point it out to me.
> > This is in regard to a crystal radio, so the match is for a low impedance
> > antenna to a high impedance tank circuit.
> > The antenna: R=58 ohms C=1072 ohms at 1Mhz.
> > The tank: L=240uh C=106pf Q = 1000
> > Tank Z =~1.5 Mohms
> > Here's my understanding of what I think I'm reading.
> > I put a matching capacitor in series with the antenna.
> > Antenna--> -----R-----C--------Match cap-----tank------ground.
> > and this is supposed to transform the circuit to this.
> > ( Maybe better said, equivalent to this)
>
> > l------------l
> > l l
> > Antenna---> R C LC<---Tank
> > l l
> > l------------l
> > ^
> > Ground
>
> > I calculate an 18.5pf cap for the match, making the antenna look like 58R
> > and 17pf.
>
> > So this; Antenna--> -----58R-----270pf--------Match
> > cap18.5pf-----1.5Mohms------ground.
> > This converts to;
> > l-----------------l
> > l l
> > Antenna--->58R 17pf 1.5M<---LC Tank at
> > l l Resonance
> > l-----------------l
```

> > ^
> > Ground
>
> > And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
> > The purpose of which is to cause minimal loading of the tank by the
> > antenna.
> > I don't understand how adding a series capacitor makes a parallel
> > conversion.
> > What do I misunderstand or do just need to believe the numbers.
> > Thanks, Mikek
>
> Seems like it doesn't much matter whether the antenna is real or
> imagined; the point is rather what's going on when you couple a low
> impedance source to a parallel-resonant tank through a small
> capacitance...
>
> Perhaps it will help you to think first about a low impedance source,
> let's say 50 ohms at 1.591MHz (1e7 radians/sec), that you want to
> couple to an (imaginary) inductor, 2.5mH with Qu=500 at that
> frequency, and maximize the energy transfer to the inductor. The
> inductance and Q implies that the effective series resistance of the
> inductor is 50 ohms. That means all we need to do is cancel out the
> inductive reactance, and we can do that with a series capacitance--
> that happens to be 4pF. That assumes the ESR of the capacitance is
> zero, or essentially zero.
>
> But what if the inductor has 1/4 as much inductance, 0.625mH, same
> Qu? Then its effective series resistance is 1/4 as much, or 12.5
> ohms, and to get the same energy dissipated in it, you need the
> current through it to be 2 times as large as before (constant R*I^2).
> The total capacitance to resonate the tank is 4 times as much: 16pF.
> If you divide that into two 8pF caps, one directly across the inductor
> and the other in series with the 50 ohm source, (very close to) half
> the tank's circulating current flows in each capacitor. For the same
> energy delivered to the coil, the voltage at the top of the inductor
> must be half as much as before. Since the coupling capacitor to the
> source is twice as large as it was before, the load impedance the
> source sees must be the same as before (50 ohms, as required for max
> energy transfer).
>
> Carry that another step, to an inductor with 1/16 the original
> inductance and the same Qu=500, and you need 64pF to resonate it and
> 16pF to couple to it from the low impedance source. Now you divide up
> the total capacitance with 3/4 of it (48pF) directly across the
> inductor and 1/4 of it to the source. 3/4 of the tank's circulating
> current flows in the 48pF capacitor, and 1/4 of it in the 16pF to the
> source; the source once again sees a 50 ohm load (because the voltage
> at the top of the inductor is 1/4 of the original, and the capacitor
> coupling to the source is 4 times as large -- with the current in the
> source unchanged).

>
> The key to understanding this coupling, to me, is the division of the
> tank's circulating current between the two capacitances, one directly
> across the coil and one in series with the source. The smaller the
> inductance (at constant Q), the more circulating current required for
> the same energy dissipation, and the smaller
> _percentage_of_total_resonating_capacitance_ for coupling to the
> (constant impedance) source.
>
> Cheers,
> Tom
>
> Tom I need to print this out and work with it.
> Did you change the inductor on purpose or just miss a
> factor of ten from the numbers I posted?
>   Thanks, Mikek

Mike, I don't care what your values are. I'm interested in showing
you in the generalized _concept_: how it works. Once you understand
that, you can work with whatever component values you want. If you
want to actually build something that works, you better pick values
you can realize.

Cheers,
Tom

66. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 01:49:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4d2fabaf$0$87582$8046368a@newsreader.iphouse.net>
Source record: 5967

On 1/12/2011 10:28 PM, Sal M. Onella wrote:
> On Jan 7, 6:21 pm, tom<news4...@taring.org> wrote:
>> On 1/7/2011 8:07 PM, bpuharic wrote:
>>
>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>> thanks much
>>
>> Well there's always thru-the-glass. It's not the most efficient in my
>> experience (which is limited with respect to these) but it seems to work
>> well enough if you have a decent repeater system that is the target.
>> One plus is that you can usually get most of the half wave above the
>> roofline.
>>
>> For all around flexibility I still like the simple quarter wave vertical
>> for 2m FM. Enough high angle for metro downtown use, but that involves
>> either holes or magnets.
>>
>> tom
>> K0TAR
>
> I saw a note from a guy who "cooked" part of his window with the thru-
> the-glass approach. He said the film sandwiched in the safety glass
> darkened from being heated. As I recall, he was using 50 watts.
>
> This stuff is all trade-offs, eh?

Never heard of that before, and I know lots of people who've used them
over the 30+ year period they've been around. Including myself. I'd
like to see pictures. And also know how much power the guy was sending
to an antenna system rated for a specific number of watts.

tom
K0TAR

67. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 01:51:21 UTC
From: amdx <amdx@knology.net>
Message-ID: <8becd$4d2fabc9$18ec6dd7$32459@KNOLOGY.NET>
Source record: 5968
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:m94vi6l8qoa5q9ghhdi4teifm9il4d5rbs@4ax.com...
> On Thu, 13 Jan 2011 16:18:35 -0600, "amdx" <amdx@knology.net> wrote:
>
>>
>>The article's focus is on matching a crystal radio tank to the antenna,
>> So as a general statement, the tank is a high impedance (mostly R)
>
> Hi Mike,
>
> There's your first mistake. Tank Z is never, ever "mostly R," or you
> wouldn't be able to make the Q claim of 1000 (or even 10).

Ok, Richard that wasn't clear to me, I think at resonance the tank is
all R, but I put mostly R because I figured you would have an objection to
all R. So are you saying it is pure R at resonance?

>......which, then leads me to ask

>"What do you really want?"
>
> 73's
> Richard Clark, KB7QHC

I want to understand the use of an air variable to match an antenna
to the tank of a crystal radio, over the AMBCB frequency range.
With that, I found I need to understand the series to parallel conversion,
which I now understand, just IS, it's not anything you do. A series RC has
a parallel RC equivalent.
I'm not sure how it can be both at the same time. But as long as that R is
transformed up, and minimally loads my tank, that's all good.
Then, I understand I still have C left that I can use as part of the C for
resonating my LC tank.
Mikek

68. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 01:56:11 UTC
From: tom <news4792@taring.org>
Message-ID: <4d2fad37$0$87580$8046368a@newsreader.iphouse.net>
Source record: 5969

On 1/13/2011 7:49 PM, tom wrote:
>
> Never heard of that before, and I know lots of people who've used them
> over the 30+ year period they've been around. Including myself. I'd like
> to see pictures. And also know how much power the guy was sending to an
> antenna system rated for a specific number of watts.

Sorry, how much power the system was _rated_ for. You stated 50 watts
delivered. Also whether he installed it correctly and tuned it correctly.

tom
K0TAR

69. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 02:10:46 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <igobba$fa6$1@news.eternal-september.org>
Source record: 5970
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On 1/13/2011 7:51 PM, amdx wrote:
> "Richard Clark"<kb7qhc@comcast.net> wrote in message
> news:m94vi6l8qoa5q9ghhdi4teifm9il4d5rbs@4ax.com...
>> On Thu, 13 Jan 2011 16:18:35 -0600, "amdx"<amdx@knology.net> wrote:
>>
>>>
>>>> The article's focus is on matching a crystal radio tank to the antenna,
>>>> So as a general statement, the tank is a high impedance (mostly R)
>>
>> Hi Mike,
>>
>> There's your first mistake. Tank Z is never, ever "mostly R," or you
>> wouldn't be able to make the Q claim of 1000 (or even 10).
>
> Ok, Richard that wasn't clear to me, I think at resonance the tank is
> all R, but I put mostly R because I figured you would have an objection to
> all R. So are you saying it is pure R at resonance?
>
>> ......which, then leads me to ask
>
>> "What do you really want?"
>>
>> 73's
>> Richard Clark, KB7QHC
>
> I want to understand the use of an air variable to match an antenna
> to the tank of a crystal radio, over the AMBCB frequency range.
> With that, I found I need to understand the series to parallel conversion,
> which I now understand, just IS, it's not anything you do. A series RC has
> a parallel RC equivalent.
> I'm not sure how it can be both at the same time. But as long as that R is
> transformed up, and minimally loads my tank, that's all good.
> Then, I understand I still have C left that I can use as part of the C for
> resonating my LC tank.
> Mikek
>

You've got it now, Mike. The series/parallel equivalent circuits are
just a mathematical tool for putting things in a form you can handle
easier. Adding the capacitor does not change the circuit from series to
parallel or the other way around.

Lets say you have a fixed frequency AC source, a resistor, and a
capacitor. The R and C is in a box where you can't see how they are

wired. You measure the voltage applied to the box and measure the current (with phase) into the box.

You could calculate the value of the R and C, right? Most people would calculate them as an R in series with a C. But, there is a parallel R (of a different value from the series case) and a parallel C (of a different value) which will give the same measurements as the series case. You cannot tell which way they are wired internally and, because of this, you cannot tell the actual values of the components. But, for analysis or synthesis, it won't matter.

You can mathematically change a circuit around from series (impedance) to parallel (admittance). This is the conversion that you've been hung up on.

Does this make any sense?

Cheers,
John

70. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 02:33:47 UTC
From: amdx <amdx@knology.net>
Message-ID: <da21d$4d2fb5db$18ec6dd7$26332@KNOLOGY.NET>
Source record: 5971
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"John - KD5YI" <sophi.2@invalid.org> wrote in message
news:igobba$fa6$1@news.eternal-september.org...
> On 1/13/2011 7:51 PM, amdx wrote:
>> "Richard Clark"<kb7qhc@comcast.net> wrote in message
>> news:m94vi6l8qoa5q9ghhdi4teifm9il4d5rbs@4ax.com...
>>> On Thu, 13 Jan 2011 16:18:35 -0600, "amdx"<amdx@knology.net> wrote:
>>>
>>>>
>>>> The article's focus is on matching a crystal radio tank to the antenna,
>>>> So as a general statement, the tank is a high impedance (mostly R)
>>>
>>> Hi Mike,
>>>
>>> There's your first mistake. Tank Z is never, ever "mostly R," or you
>>> wouldn't be able to make the Q claim of 1000 (or even 10).
>>
>> Ok, Richard that wasn't clear to me, I think at resonance the tank is
>> all R, but I put mostly R because I figured you would have an objection
>> to
>> all R. So are you saying it is pure R at resonance?
>>
>>> ......which, then leads me to ask
>>
>>> "What do you really want?"
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>> I want to understand the use of an air variable to match an antenna
>> to the tank of a crystal radio, over the AMBCB frequency range.
>> With that, I found I need to understand the series to parallel
>> conversion,
>> which I now understand, just IS, it's not anything you do. A series RC
>> has
>> a parallel RC equivalent.
>> I'm not sure how it can be both at the same time. But as long as that R
>> is
>> transformed up, and minimally loads my tank, that's all good.
>> Then, I understand I still have C left that I can use as part of the C
>> for
>> resonating my LC tank.
>> Mikek
>>

>
> You've got it now, Mike. The series/parallel equivalent circuits are just
> a mathematical tool for putting things in a form you can handle easier.
> Adding the capacitor does not change the circuit from series to parallel
> or the other way around.
>
> Lets say you have a fixed frequency AC source, a resistor, and a
> capacitor. The R and C is in a box where you can't see how they are wired.
> You measure the voltage applied to the box and measure the current (with
> phase) into the box.
>
> You could calculate the value of the R and C, right? Most people would
> calculate them as an R in series with a C. But, there is a parallel R (of
> a different value from the series case) and a parallel C (of a different
> value) which will give the same measurements as the series case. You
> cannot tell which way they are wired internally and, because of this, you
> cannot tell the actual values of the components. But, for analysis or
> synthesis, it won't matter.
>
> You can mathematically change a circuit around from series (impedance) to
> parallel (admittance). This is the conversion that you've been hung up on.
>
> Does this make any sense?
>
> Cheers,
> John
>
Ya, I have a better understanding now. I need to run a few cases and
see the minimum and maximum capacitor needed for a proposed situation.
I wish it would warm up, I'd like to put up an antenna and measure it, to
get a real case to work with.
Mikek

71. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 02:46:46 UTC
From: dplatt@radagast.org
Message-ID: <m1q408-8dj.ln1@radagast.org>
Source record: 5972
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

In article <8becd$4d2fabc9$18ec6dd7$32459@KNOLOGY.NET>,
amdx <amdx@knology.net> wrote:

> A series RC has
>a parallel RC equivalent.

>I'm not sure how it can be both at the same time.

What I found to be most instructive, in understanding this (that is, series representations vs. parallel representations) was to drop down a level into the underlying mathematics.

Start with the fact that you have two impedances (let's call them Z1 and Z2) which are in parallel.

Toss in the basic formula for the result:

Ztot = (Z1 * Z2) / (Z1 + Z2)

Since you have a resistor R and a capacitor C in parallel, Z1 is a real number (it's just R), and Z2 will be an imaginary number (it's -i/2piFC, or 1/jWC if you prefer engineering notations and squint at the "W" so it looks like an omega).

Plug these values into the equation above, and simplify according to the rules for complex number mathematics. You'll end up with Ztot being a complex number, equal to the sum of a pure resistance (real) and a pure capacitance (imaginary). These are the impedances of the series network equivalent to your original parallel network.

Alternate route to the same solution: take each of the two impedances and invert them, to determine the admittances of the two components. The admittance of R will be purely real, while the admittance of C will be purely imaginary. Add the two together (since they're in parallel) to get the complex admittance of the parallel combination. Now, invert this complex number according to the usual rules, to get the equivalent complex impedance... this will be a complex number, the sum of a pure resistance and a pure capacitance. The numbers you get will be the same as in the previous work-through.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

72. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 03:53:25 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <igohbq$1hg$1@news.eternal-september.org>
Source record: 5973
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On 1/13/2011 8:33 PM, amdx wrote:

> Ya, I have a better understanding now. I need to run a few cases and
> see the minimum and maximum capacitor needed for a proposed situation.
> I wish it would warm up, I'd like to put up an antenna and measure it, to
> get a real case to work with.
> Mikek
>
>

Mike -

Look into getting and learning (free) LTSpice for circuit analysis.

Also look into getting and learning EZNEC (free) for antenna analysis.

You can't beat putting up an antenna and building a circuit for it and measuring results. But, during adverse weather, you can experiment with simulation software and learn a lot. Then you can try your simulated experiments when the wx is good.

Cheers,
John

73. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 05:28:33 UTC
From: Ron Hinds <no_one@dont_spam_me.org>
Message-ID: <igomu2$35e$1@news.eternal-september.org>
Source record: 5974

"Geoffrey S. Mendelson" <gsm@mendelson.com> wrote in message
news:slrniiqtvh.ahk.gsm@cable.mendelson.com...
> Ron Hinds wrote:
>> Then of the three I mentioned, the RG-8/U would be best?
>
> I think you have completely lost sight of what you are doing. The radio in
> question is a handheld device, aka a "Handie-Talkie" or H/T. It is
> designed
> to work with the whip antenna that comes with it.
>
> It may not get better reception or transmission with a larger antenna,
> and may actually do worse. The front end of the radio is not designed to
> handle large signals and it could easily overload and hear nothing.
>
> Obvioulsy an outside antenna is needed if you are inside metal or poured
> concrete (due to the steel reinforcing bars) walls or in a car. In a
> wooden
> or plasterboard house, you may not get a lot of improvement nor need it.
>
> You might think that a high gain antenna will improve your reception, but
> if there is a close station or repeater it will just blank out. It does
> not
> have to a ham transmitter, paging, VHF (fire/EMS, etc) will wipe out 2m,
> and UHF can disappear under a GMRS or land mobile system.
>
> If you live out in the woods, then a decent outside antenna will help and
> a random wire or dipole will help with HF reception. In a big city, the
> ferrite bar (up to 7mHz) will be a noise magnet and you many not even be
> able
> to receive anything at all.
>
> As for coax, good quality RG-6 coax will do fine, and you can get it
> almost
> anywhere. Make sure to use high quality COMPRESSION connectors and
> adaptors.
> The radio uses an SMA connector so you will need to get an SMA to F to
> connect
> it to the coax and the antenna will have a PL-259 (aka UHF) or "N"
> connector
> on it so you will need to get the connectors from a specialty shop.
>
> You also want to get an external speaker and microphone as if you connect
> up a coax to it, you will destroy the radio. The stress on the antenna
> connector will cause it to break, or crack the circuit board it is

> connected
> to. If you epxect to hand hold the radio and talk on it, something stiff
> such as RG/213 may not last out a day of activity. :-(
>
> Geoff.
>
> --
> Geoffrey S. Mendelson N3OWJ/4X1GM
> Those who cannot remember the past are condemned to misquote it.

Thank you for the excellent suggestions, Geoff! I live in the boonies - the nearest repeater is about 15 miles away and no line of sight with it - at least not at ground level. All of the others are considerably farther away and no line of sight with them, either (lots of mountains here). I already have a short SMA adapter cable for my mobile antenna, and a speaker/mic too.

74. Re: Antennas for Kenwood TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 05:30:28 UTC
From: Ron Hinds <no_one@dont_spam_me.org>
Message-ID: <igon1l$4lt$1@news.eternal-september.org>
Source record: 5975

"Sal M. Onella" <sobars@cox.net> wrote in message
news:db70dfd9-2034-4dfa-a89e-3ec2f40620b7@z19g2000yqb.googlegroups.com...

Amen!

I love to build antennas and I could not do it without some form of measurement device to determine the characteristics of the in-work project. I usually go by VSWR and alter the design in various ways (often slight changes to element lengths) to minimize the VSWR at my chosen freq. a VHF/UHF VSWR meter can be had for peanuts but a 250-dollar antenna analyzer will be in your future if you get a case of Antenna Fever. (Yeah, I have one.) However, as you are just getting started, try reading this: http://kb6nu.com/no-vhf-swr-meter-no-problem/

I like working in copper pipe at VHF and above. It's very durable and responds well to a Home Depot propane torch for so-called "sweat soldering." Copper pipe comes in several grades. The cheapest grade seems to make antennas that are just fine.

Welcome to the hobby.

"Sal"
KD6VKW

****

Thank you! Antenna Fever - LOL!!!

75. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 05:43:55 UTC
From: GoldIntermetallicEmbrittlement <GoldIntermetallicEmbrittlement@youdontknowjack.org>
Message-ID: <0jovi6tkkr9oc76082udn6gm1dd3lffbe0@4ax.com>
Source record: 5976
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 20:10:46 -0600, John - KD5YI <sophi.2@invalid.org>
wrote:

>
>Does this make any sense?

Up, up, and away, in my beautiful, my beautiful balun!

76. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 06:56:16 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <ebf6cf5d-023f-449a-93ba-297a449e23f2@k30g2000vbn.googlegroups.com>
Source record: 5977

On Jan 13, 5:56 pm, tom <news4...@taring.org> wrote:
> On 1/13/2011 7:49 PM, tom wrote:
>
>
>
> > Never heard of that before, and I know lots of people who've used them
> > over the 30+ year period they've been around. Including myself. I'd like
> > to see pictures. And also know how much power the guy was sending to an
> > antenna system rated for a specific number of watts.
>
> Sorry, how much power the system was _rated_ for. You stated 50 watts
> delivered. Also whether he installed it correctly and tuned it correctly.
>
> tom
> K0TAR

Sorry, too, that this was years ago and I cannot recall the source. I looked for something (anything) before I posted, came up with nothing and almost didn't post it. More looking just now, trying different search terms and still nothing. Maybe it was BS. One lone story isn't very impressive.

77. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 07:12:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7rqvi6l5attfq1fneoi54q9o62sevqjbvu@4ax.com>
Source record: 5978
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 19:51:21 -0600, "amdx" <amdx@knology.net> wrote:

>
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:m94vi6l8qoa5q9ghhdi4teifm9il4d5rbs@4ax.com...
>> On Thu, 13 Jan 2011 16:18:35 -0600, "amdx" <amdx@knology.net> wrote:
>>
>>>
>>>The article's focus is on matching a crystal radio tank to the antenna,
>>> So as a general statement, the tank is a high impedance (mostly R)
>>
>> Hi Mike,
>>
>> There's your first mistake. Tank Z is never, ever "mostly R," or you
>> wouldn't be able to make the Q claim of 1000 (or even 10).
>
> Ok, Richard that wasn't clear to me, I think at resonance the tank is
>all R, but I put mostly R because I figured you would have an objection to
>all R. So are you saying it is pure R at resonance?

Hi Mike,

Let's say there is absolutely no loss in the Tank (superconduction and perfect dissipation values as it were); then we would have to ask ourselves what happens to energy applied to this Tank at resonance? It can never enter it, thus the Tank is, in effect, infinite in resistance. But what about the circulating currents? The Tank is, in effect, infinite in conductance.

Infinite Ohms & Zero Ohms simultaneously.

Is this the Z of the Tank? Is this the R of the Tank to which you are matching? No, not even close and certainly it has nothing to do with resonance - except the condition is a function of it being at resonance. A low Z Tank or a high Z Tank each evidences the same Infinite Ohms & Zero Ohms simultaneity given my initial condition of absolute losslessness.

For the energy being applied to or drawn from the Tank, the Tank is in parallel operation. For energy in the Tank, the Tank is in series operation. Where is the Q in this duality? Q suffers by the nature of what you call R. Q has two different values by this duality. One is called "Loaded Q" and as you might guess, the second is called "Unloaded Q." Consult Terman for the engineering design rationale for optimal Qs as I suggested.

When the discussion of "matching" seeks to employ R (pure resistance), then the next step is toward a conjugate match and elaborations of efficiency and maximum transfer of power. There is also an alternative discussion called the Zo Match. This second match seems to invite the same elaborations (many who post here try to force them both into the same salad bowl and cover the illogic with dressing).

When you offered the comment about "the tank is a high impedance (mostly R)" it was steering the car off the cliff. Is this a Zo match or a Conjugate match you are seeking? (I can already anticipate this has gone over your head, as well as many readers. This and the questions that follow are rhetorical.)

For instance, and returning to antennas (the purpose of this group's discussion focus), you can have very high Z antennas with very low resistance characteristics. Do you want a Zo Match, or a Conjugate Match? Let me flip the antenna: you can have very high Z antennas with very high resistance characteristics. Do you want a Zo Match, or a Conjugate Match? Let's do this sideways: you can have very low Z antennas with very low resistance characteristics. Do you want a Zo Match, or a Conjugate Match? I could box the compass here, but the I think I will let the reader off.

>
>>.....which, then leads me to ask
>
>>"What do you really want?"
>>
>> 73's
>> Richard Clark, KB7QHC
>
> I want to understand the use of an air variable to match an antenna
>to the tank of a crystal radio, over the AMBCB frequency range.
> With that, I found I need to understand the series to parallel conversion,
>which I now understand, just IS, it's not anything you do. A series RC has
>a parallel RC equivalent.
>I'm not sure how it can be both at the same time. But as long as that R is
>transformed up, and minimally loads my tank, that's all good.
>Then, I understand I still have C left that I can use as part of the C for
>resonating my LC tank.
> Mikek

John had some number issues with Tony's explanation, but the gist of Tony's rational treatment should be your lesson as it provides for your requested "why." It also implies (by my comments of the sudden appearance of two new components) that our (Ham) tuners have been designed to introduce the proper amounts of reactances in the proper parallel/series relationships to enable the necessary transform towards optimal Q and loading balance. The most elaborate of tuners can change from Pi to T topologies, or series L parallel C (or series C parallel L), or series LC, or parallel LC, or parallel C series L (or parallel L series C)... and any of the other combinations I have

not enumerated (about 9 in all). Each shines for a particular situation - you have named only one.

It is not a trivial discussion by any means even when we are talking about the addition of only two new components. So, your obtaining an understanding is not going to be achieved at one sitting in front of the "definitive" posting to a thread.

One problem of seeking the "definitive" posting is that it cannot be born from a broken premise that article you were trying to figure out is lame in the extreme. Given everything you have revealed about it, it didn't present a solution to its fantasy antenna. That is why this work of fiction is not understandable.

73's
Richard Clark, KB7QHC

78. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 09:44:08 UTC
From: Pomegranate Bastard <pommyB@dsl.pipex.com>
Message-ID: <0j60j6t8krkn18hk0mkck8k3734dr339f9@4ax.com>
Source record: 5979
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Thu, 13 Jan 2011 21:43:55 -0800, GoldIntermetallicEmbrittlement
<GoldIntermetallicEmbrittlement@youdontknowjack.org> wrote:

>On Thu, 13 Jan 2011 20:10:46 -0600, John - KD5YI <sophi.2@invalid.org>
>wrote:
>
>>
>>>Does this make any sense?
>
>
> Up, up, and away, in my beautiful, my beautiful balun!

That's even worse than your favourite. You know, the one that goes
"Your mother should be arrested for ......"

Piss off, you pathetic dullard.

79. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 11:58:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <20a0b0e4-0c96-4fdd-bc77-d8f28f3ab07c@15g2000vbz.googlegroups.com>
Source record: 5980
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Jan 14, 2:33 am, "amdx" <a...@knology.net> wrote:
> "John - KD5YI" <soph...@invalid.org> wrote in
messagenews:igobba$fa6$1@news.eternal-september.org...
>
> > On 1/13/2011 7:51 PM, amdx wrote:
> >> "Richard Clark"<kb7...@comcast.net> wrote in message
> >>news:m94vi6l8qoa5q9ghhdi4teifm9il4d5rbs@4ax.com...
> >>> On Thu, 13 Jan 2011 16:18:35 -0600, "amdx"<a...@knology.net> wrote:
>
> >>>> The article's focus is on matching a crystal radio tank to the antenna,
> >>>> So as a general statement, the tank is a high impedance (mostly R)
>
> >>> Hi Mike,
>
> >>> There's your first mistake. Tank Z is never, ever "mostly R," or you
> >>> wouldn't be able to make the Q claim of 1000 (or even 10).
>
> >>   Ok, Richard that wasn't clear to me, I think at resonance the tank is
> >> all R, but I put mostly R because I figured you would have an objection
> >> to
> >> all R. So are you saying it is pure R at resonance?
>
> >>> ......which, then leads me to ask
>
> >>> "What do you really want?"
>
> >>> 73's
> >>> Richard Clark, KB7QHC
>
> >>   I want to understand the use of an air variable to match an antenna
> >> to the tank of a crystal radio, over the AMBCB frequency range.
> >>   With that, I found I need to understand the series to parallel
> >> conversion,
> >> which I now understand, just IS, it's not anything you do. A series RC
> >> has
> >> a parallel RC equivalent.
> >> I'm not sure how it can be both at the same time. But as long as that R
> >> is
> >> transformed up, and minimally loads my tank, that's all good.
> >> Then, I understand I still have C left that I can use as part of the C
> >> for
> >> resonating my LC tank.
> >>   Mikek

>
> > You've got it now, Mike. The series/parallel equivalent circuits are just
> > a mathematical tool for putting things in a form you can handle easier.
> > Adding the capacitor does not change the circuit from series to parallel
> > or the other way around.
>
> > Lets say you have a fixed frequency AC source, a resistor, and a
> > capacitor. The R and C is in a box where you can't see how they are wired.
> > You measure the voltage applied to the box and measure the current (with
> > phase) into the box.
>
> > You could calculate the value of the R and C, right? Most people would
> > calculate them as an R in series with a C. But, there is a parallel R (of
> > a different value from the series case) and a parallel C (of a different
> > value) which will give the same measurements as the series case. You
> > cannot tell which way they are wired internally and, because of this, you
> > cannot tell the actual values of the components. But, for analysis or
> > synthesis, it won't matter.
>
> > You can mathematically change a circuit around from series (impedance) to
> > parallel (admittance). This is the conversion that you've been hung up on.
>
> > Does this make any sense?
>
> > Cheers,
> > John
>
> Ya, I have a better understanding now. I need to run a few cases and
> see the minimum and maximum capacitor needed for a proposed situation.
>   I wish it would warm up, I'd like to put up an antenna and measure it, to
> get a real case to work with.
>   Mikek

just throw a wire out the window, plug it in, and see if it works!
ANY antenna connected with a hunk of hookup wire will work better than
NO antenna with a perfectly designed match!

80. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 12:05:28 UTC
From: NhocCuteGirl <NhocCuteGirl.7763999@radiobanter.com>
Message-ID: <NhocCuteGirl.7763999@radiobanter.com>
Source record: 5985

Ahh....1 should have said Series to Parallel Conversion.

Mikek

--
NhocCuteGirl

81. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 13:20:20 UTC
From: amdx <amdx@knology.net>
Message-ID: <68c42$4d304d3d$18ec6dd7$23480@KNOLOGY.NET>
Source record: 5981
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:7rqvi6l5attfq1fneoi54q9o62sevqjbvu@4ax.com...
> On Thu, 13 Jan 2011 19:51:21 -0600, "amdx" <amdx@knology.net> wrote:
>
>>
>>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>>news:m94vi6l8qoa5q9ghhdi4teifm9il4d5rbs@4ax.com...
>>> On Thu, 13 Jan 2011 16:18:35 -0600, "amdx" <amdx@knology.net> wrote:
>>>
>>>>
>>>>The article's focus is on matching a crystal radio tank to the antenna,
>>>> So as a general statement, the tank is a high impedance (mostly R)
>>>
>>> Hi Mike,
>>>
>>> There's your first mistake. Tank Z is never, ever "mostly R," or you
>>> wouldn't be able to make the Q claim of 1000 (or even 10).
>>
>> Ok, Richard that wasn't clear to me, I think at resonance the tank is
>>all R, but I put mostly R because I figured you would have an objection to
>>all R. So are you saying it is pure R at resonance?
>
> Hi Mike,
>
> Let's say there is absolutely no loss in the Tank (superconduction and
> perfect dissipation values as it were); then we would have to ask
> ourselves what happens to energy applied to this Tank at resonance? It
> can never enter it, thus the Tank is, in effect, infinite in
> resistance. But what about the circulating currents? The Tank is, in
> effect, infinite in conductance.
>
> Infinite Ohms & Zero Ohms simultaneously.
>
> Is this the Z of the Tank? Is this the R of the Tank to which you are
> matching? No, not even close and certainly it has nothing to do with
> resonance - except the condition is a function of it being at
> resonance. A low Z Tank or a high Z Tank each evidences the same
> Infinite Ohms & Zero Ohms simultaneity given my initial condition of
> absolute losslessness.
>
> For the energy being applied to or drawn from the Tank, the Tank is in
> parallel operation. For energy in the Tank, the Tank is in series
> operation. Where is the Q in this duality? Q suffers by the nature
```

> of what you call R. Q has two different values by this duality. One
> is called "Loaded Q" and as you might guess, the second is called
> "Unloaded Q." Consult Terman for the engineering design rationale for
> optimal Qs as I suggested.

A lot there, but I didn't get anything out of it.
At resonance, does the tank look capacitive, inductive, resistive, or all
>>to the antenna<< you connect to it. (this makes the assumption attaching
the antenna didn't change anything, it did, let's say I adjusted back to
resonance)
And then my original question,
Are you saying it is pure R at resonance?
A yes or no will be fine, then I can try to reprocess the above that
didn't get anything out of.

> When the discussion of "matching" seeks to employ R (pure resistance),
> then the next step is toward a conjugate match and elaborations of
> efficiency and maximum transfer of power. There is also an
> alternative discussion called the Zo Match. This second match seems
> to invite the same elaborations (many who post here try to force them
> both into the same salad bowl and cover the illogic with dressing).

I'll bite,
I want maximum transfer of power, I'm still working with the tank as
a large pure R so I want the antenna to look like the same large R.
I realize there is still capacitance from the antenna to deal with.
Now are getting to conjugate :-)

> When you offered the comment about "the tank is a high impedance
> (mostly R)" it was steering the car off the cliff. Is this a Zo match
> or a Conjugate match you are seeking? (I can already anticipate this
> has gone over your head, as well as many readers. This and the
> questions that follow are rhetorical.)
>
> For instance, and returning to antennas (the purpose of this group's
> discussion focus), you can have very high Z antennas with very low
> resistance characteristics. Do you want a Zo Match, or a Conjugate
> Match? Let me flip the antenna: you can have very high Z antennas
> with very high resistance characteristics. Do you want a Zo Match, or
> a Conjugate Match? Let's do this sideways: you can have very low Z
> antennas with very low resistance characteristics. Do you want a Zo
> Match, or a Conjugate Match? I could box the compass here, but the I
> think I will let the reader off.
>
>>
>>>......which, then leads me to ask
>>
>>>"What do you really want?"
>>>
>>> 73's
>>> Richard Clark, KB7QHC

>>
>> I want to understand the use of an air variable to match an antenna
>>to the tank of a crystal radio, over the AMBCB frequency range.
>> With that, I found I need to understand the series to parallel
>> conversion,
>>which I now understand, just IS, it's not anything you do. A series RC has
>>a parallel RC equivalent.
>>I'm not sure how it can be both at the same time. But as long as that R is
>>transformed up, and minimally loads my tank, that's all good.
>>Then, I understand I still have C left that I can use as part of the C for
>>resonating my LC tank.
>> Mikek
>
> John had some number issues with Tony's explanation, but the gist of
> Tony's rational treatment should be your lesson as it provides for
> your requested "why." It also implies (by my comments of the sudden
> appearance of two new components) that our (Ham) tuners have been
> designed to introduce the proper amounts of reactances in the proper
> parallel/series relationships to enable the necessary transform
> towards optimal Q and loading balance. The most elaborate of tuners
> can change from Pi to T topologies, or series L parallel C (or series
> C parallel L), or series LC, or parallel LC, or parallel C series L
> (or parallel L series C)... and any of the other combinations I have
> not enumerated (about 9 in all). Each shines for a particular
> situation - you have named only one.

Because of the wavelength of the BCB antennas are usually short and
capacitive,
so simple tuning with a single series cap works. The problem begins when you
tune to the high end of the band and you have to much capacitance to get to
resonance with your tank. Then the inductor can be added parallel to the
series
antenna tuning cap. Alternately and you could increase the tank inductor
size.

> It is not a trivial discussion by any means even when we are talking
> about the addition of only two new components. So, your obtaining an
> understanding is not going to be achieved at one sitting in front of
> the "definitive" posting to a thread.
>
> One problem of seeking the "definitive" posting is that it cannot be
> born from a broken premise that article you were trying to figure out
> is lame in the extreme.

> Given everything you have revealed about it,
> it didn't present a solution to its fantasy antenna.

I didn't rewrite the whole article here, there was a solution
with three equations, that, using the antenna finds the L with the
constrants
of highest operating frequency and lowest capacitance of your capacitor,

then a program is run that finds values for C (antenna) and C (tank) and
I'm not ready to go here yet C (load), he also tunes the diode/earphone
load for optimum with yet another capacitor.
The funs over for now go to get ready for work,
Thanks, Mikek
PS, he runs the program with another, what you call fantasy antenna,
and I agree...
> 73's
> Richard Clark, KB7QHC

82. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 14:39:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <u1k0j61pvd6j9qkptie3ht1b8n8e6vl55e@4ax.com>
Source record: 5982
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Fri, 14 Jan 2011 07:20:20 -0600, "amdx" <amdx@knology.net> wrote:

> I want maximum transfer of power, I'm still working with the tank as
>a large pure R so I want the antenna to look like the same large R.

No you don't.

What you want is the lightest final load sufficient to drive a speaker
for a detectable sound matched to the Tank such that it does not
degrade its Q which in turn is the highest possible value for
supporting the largest amount of signal from the antenna at hand.

Am I wrong?

73's
Richard Clark, KB7QHC

83. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 16:47:50 UTC
From: amdx <amdx@knology.net>
Message-ID: <3009c$4d307e0d$18d66021$11671@KNOLOGY.NET>
Source record: 5983
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:u1k0j61pvd6j9qkptie3ht1b8n8e6vl55e@4ax.com...
> On Fri, 14 Jan 2011 07:20:20 -0600, "amdx" <amdx@knology.net> wrote:
>
>> I want maximum transfer of power, I'm still working with the tank as
>>a large pure R so I want the antenna to look like the same large R.
>
> No you don't.
>
> What you want is the lightest final load sufficient to drive a speaker

We haven't got to the load yet! it's coming :-)

> for a detectable sound matched to the Tank such that it does not
> degrade its Q which in turn is the highest possible value for
> supporting the largest amount of signal from the antenna at hand.
>
> Am I wrong?

There is a chance the Q (loaded) will be high enough to limit audio
bandwidth.
So (I think) we couple more energy into the tank for more signal and this
would
lower Q for a wider bandwidth.

Here's a question I have brewing.

I have three circuits to put together, a source, a tank and, a load.
I have two scenerios. hmm..seems as though I have three!
For now assume they are all resistive.
These are all set up for maximum power transfer, just in different order.

Scenerio 1.
Let's say the tank is 1 megohm.
I drive the tank with a 1meg source, so now I have 500Kohm circuit
impedance.
Then I load this with 500Kohm load.
So..
The 1 megohm tank is loaded with 333,333ohms, 1meg//500k
The 1 meg antenna is loaded with 333,333ohms, 1meg//500k
The 500Kohm load is drive by 500kohms. 1meg//1meg

Scenerio 2.
1 megohm tank.
I put a 1 megohm load

I can drive the tank with a 500Kohm source,
So..
The 1 megohm tank is loaded with 333,333ohms, 500k//1meg
The 500 Kohm antenna is loaded with 500Kohms, 1meg//1meg
The 1 megohm load is driven by 500kohms. 1meg//500k

Scenerio 3.
1 megohm tankThe
I drive the tank with 2 megohm source and load it with a 2 megohm load.
So..
The 1 megohm tank is loaded with 1 Mohm, 2Mohm//2Mohm
The 2 meg antenna is loaded with 666,666 ohms, 1meg//2meg
2 megohm load is drive by 666,666 ohms. 1meg//2meg

I have no clue where maximum power is delivered
from the antenna to the load.

This aught to be fun :-)
Mikek

84. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 16:50:01 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d307ebd$0$19271$4fafbaef@reader2.news.tin.it>
Source record: 5984
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

> Antonio - I think you slipped a decimal point. The parallel equivalent of the
> series combo 58R-2947j is actually 149k+2948j.

Hi John,

I do not understand where your -2947j figure comes from. I see it appearing nowhere in my calculations.

The antenna mentioned by Mikek has an impedance of 58R-1,072j which, according to my spreadsheet, corresponds (at 1 MHz) to the parallel of 19862R and -1075j (that is a 148,1 pF capacitor).

In any case, parallel <--> series trasformations never result in a change of the reactance sign; therefore it is not possible that a -2957j (negative) reactance is transformed into a +2948j (positive) reactance.

73

Tony I0JX

85. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 17:49:45 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <igq2bu$fh4$1@news.eternal-september.org>
Source record: 5986
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On 1/14/2011 10:50 AM, Antonio Vernucci wrote:
>> Antonio - I think you slipped a decimal point. The parallel equivalent
>> of the series combo 58R-2947j is actually 149k+2948j.
>
> Hi John,
>
> I do not understand where your -2947j figure comes from. I see it
> appearing nowhere in my calculations.

Well, it's not mine and it appears in you post as 54 pF. Isn't 58R in series with 54 pF equal to 58-2947j? And isn't the parallel equivalent of that equal to 149k ohms of resistance in parallel with -2948 ohms of reactance (~54 pF)?

I'm pointing out that you slipped a decimal point or you would have seen that 54 pF is too much it results in the parallel equivalent resistance of 149k rather than 1.49M. Mike's figure of about 18 pF (17 pF series combination) will do the job.

> In any case, parallel <--> series trasformations never result in a
> change of the reactance sign; therefore it is not possible that a -2957j
> (negative) reactance is transformed into a +2948j (positive) reactance.

You are correct. I allowed the sign of the suseptance to creep through.

> 73
>
> Tony I0JX
>

86. Rubber antenna for Airband Handie ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 18:17:44 UTC
From: pilotphil312 <pilotphil312.7768df8@radiobanter.com>
Message-ID: <pilotphil312.7768df8@radiobanter.com>
Source record: 5995

Does anyone have any idea where I can obtain a replacement antenna for
an obsolete Icom ICA20 air band hand held radio, I've made a couple
myself but they're not cosmetically brilliant (!) The IA20 bit
might not mean a lot in the "States" but the rig covers the VOR band,
and then 118 - 136 MHz AM.
The termination is BNC.

Thankx guys

Phil

--
pilotphil312

87. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 18:35:43 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d309781$0$19270$4fafbaef@reader2.news.tin.it>
Source record: 5987
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

> Well, it's not mine and it appears in you post as 54 pF. Isn't 58R in series
> with 54 pF equal to 58-2947j? And isn't the parallel equivalent of that equal
> to 149k ohms of resistance in parallel with -2948 ohms of reactance (~54 pF)?
>
> I'm pointing out that you slipped a decimal point or you would have seen that
> 54 pF is too much it results in the parallel equivalent resistance of 149k
> rather than 1.49M. Mike's figure of about 18 pF (17 pF series combination)
> will do the job.

Yes, at one o' clock in the morning, I slipped the decimal point. So, the total antenna series capacitance should have been about 17 pF, not 54 pF. This requires putting a 19-pF capacitance in series with the antenna, not 85 pF.

And the inductance resonating the residual parallel capacitance becomes 1,490 uH instead of 470 uH.

Sorry for mistake!

73

Tony I0JX

88. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 18:41:28 UTC
From: Jim Thompson <To-Email-Use-The-Envelope-Icon@On-My-Web-Site.com>
Message-ID: <j461j6hq452mrhkdjd469vaaj0d88ak6eg@4ax.com>
Source record: 5988
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Fri, 14 Jan 2011 19:35:43 +0100, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>> Well, it's not mine and it appears in you post as 54 pF. Isn't 58R in series
>> with 54 pF equal to 58-2947j? And isn't the parallel equivalent of that equal
>> to 149k ohms of resistance in parallel with -2948 ohms of reactance (~54 pF)?
>>
>> I'm pointing out that you slipped a decimal point or you would have seen that
>> 54 pF is too much it results in the parallel equivalent resistance of 149k
>> rather than 1.49M. Mike's figure of about 18 pF (17 pF series combination)
>> will do the job.
>
>Yes, at one o' clock in the morning, I slipped the decimal point. So, the total
>antenna series capacitance should have been about 17 pF, not 54 pF. This
>requires putting a 19-pF capacitance in series with the antenna, not 85 pF.
>
>And the inductance resonating the residual parallel capacitance becomes 1,490 uH
>instead of 470 uH.
>
>Sorry for mistake!
>
>73
>
>Tony I0JX

Hasn't anyone pointed out that this a problem made for using a Smith
Chart?

(Since no one really seems capable of doing the math :-)

...Jim Thompson
--
James E.Thompson, CTO	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona 85048 Skype: Contacts Only	
Voice:(480)460-2350 Fax: Available upon request	Brass Rat
E-mail Icon at http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

89. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 18:55:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <78c8fc1d-25a4-4a68-bdaa-8ead56be498d@e20g2000vbn.googlegroups.com>
Source record: 5989
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Jan 14, 6:41 pm, Jim Thompson <To-Email-Use-The-Envelope-I...@On-My-
Web-Site.com> wrote:
> On Fri, 14 Jan 2011 19:35:43 +0100, "Antonio Vernucci"
>
>
>
> <vernu...@tin.it> wrote:
> >> Well, it's not mine and it appears in you post as 54 pF. Isn't 58R in series
> >> with 54 pF equal to 58-2947j? And isn't the parallel equivalent of that equal
> >> to 149k ohms of resistance in parallel with -2948 ohms of reactance (~54 pF)?
>
> >> I'm pointing out that you slipped a decimal point or you would have seen that
> >> 54 pF is too much it results in the parallel equivalent resistance of 149k
> >> rather than 1.49M. Mike's figure of about 18 pF (17 pF series combination)
> >> will do the job.
>
> >Yes, at one o' clock in the morning, I slipped the decimal point. So, the total
> >antenna series capacitance should have been about 17 pF, not 54 pF. This
> >requires putting a 19-pF capacitance in series with the antenna, not 85 pF.
>
> >And the inductance resonating the residual parallel capacitance becomes 1,490 uH
> >instead of 470 uH.
>
> >Sorry for mistake!
>
> >73
>
> >Tony I0JX
>
> Hasn't anyone pointed out that this a problem made for using a Smith
> Chart?
>
> (Since no one really seems capable of doing the math :-)
>
>   ...Jim Thompson
> --
> | James E.Thompson, CTO | mens |
> | Analog Innovations, Inc. | et |
> | Analog/Mixed-Signal ASIC's and Discrete Systems | manus |
> | Phoenix, Arizona 85048   Skype: Contacts Only | |
> | Voice:(480)460-2350 Fax: Available upon request | Brass Rat |
> | E-mail Icon athttp://www.analog-innovations.com| 1962 |
>

> I love to cook with wine. Sometimes I even put it in the food.

just plug it in and try it... if the volume isn't high enough get a
real radio!

90. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 19:55:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ic51j65pa3jsso2l1429p8l2scvobcnohe@4ax.com>
Source record: 5990
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Fri, 14 Jan 2011 10:47:50 -0600, "amdx" <amdx@knology.net> wrote:

>So (I think) we couple more energy into the tank for more signal and this
>would
>lower Q for a wider bandwidth.

Hi Mike,

How? (It would be a sad day for us all if more input to a Tank
lowered its Q were true.)

>Here's a question I have brewing.
>
>I have three circuits to put together, a source, a tank and, a load.
>I have two scenerios. hmm..seems as though I have three!
>For now assume they are all resistive.
> These are all set up for maximum power transfer

Actually, that remains to be seen. We must first establish that we
have the same available power in all three which I will give the
arbitrary value of 1 to simplify the math. Also, you mix your source
loading in these models, so in the sense of Norton/Thevenin sources I
describe the power being supplied by a parallel current source to keep
the units uniform.

>Scenerio 1.
>Let's say the tank is 1 megohm.
>I drive the tank with a 1meg source, so now I have 500Kohm circuit
>impedance.
This presumes a parallel current source by your description of the
input and tank appearing as a 500K circuit. This is why set the
initial condition of there being a current source for all scenarios.
>Then I load this with 500Kohm load.
The parallel current source then sees 250K Ohm for the same power
available to all scenarios.
Pavailable = 1 = iï¿½ï¿½250K
i = sqrt(1/250K)
As the current does not divide evenly, then we will work to find the
power to the load through voltage sharing. Obviously, there is the
same voltage across the three components, hence:
e = iï¿½250K = 500
Pload = eï¿½/500K = 0.50

>Scenerio 2.
>1 megohm tank.

>I put a 1 megohm load
>I can drive the tank with a 500Kohm source,
This does not qualify either a parallel current nor series voltage
source, but as both are fungible to design with the same value
resistance, then I will proceed as before with all three resistors in
parallel to a parallel current source:
Pavailable = 1 = iï¿½ï¿½250K
i = sqrt(1/250K)
Obviously, there is the same voltage across the three components,
hence:
e = iï¿½250K = 500
Pload = eï¿½/1000K = 0.25

>Scenerio 3.
>1 megohm tankThe
>I drive the tank with 2 megohm source and load it with a 2 megohm load.
>So..
This does not qualify either a parallel current nor series voltage
source, but as both are fungible to design with the same value
resistance, then I will proceed as before with all three resistors in
parallel to a parallel current source:
Pavailable = 1 = iï¿½ï¿½500K
i = sqrt(1/500K)
Obviously, there is the same voltage across the three components,
hence:
e = iï¿½500K = 707
Pload = eï¿½/2000K = 0.25

>I have no clue where maximum power is delivered
>from the antenna to the load.

Any clues now? Barring any math or conceptual error on my part, then
by one account more power (that is one measure of success) is
delivered to the load when its resistance is lowest.

How does this impact design priorities?

73's
Richard Clark, KB7QHC

91. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 20:45:25 UTC
From: amdx <amdx@knology.net>
Message-ID: <3a935$4d30b5e7$18d66021$17735@KNOLOGY.NET>
Source record: 5991
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:ic51j65pa3jsso2l1429p8l2scvobcnohe@4ax.com...
> On Fri, 14 Jan 2011 10:47:50 -0600, "amdx" <amdx@knology.net> wrote:
>
>>So (I think) we couple more energy into the tank for more signal and this
>>would
>>lower Q for a wider bandwidth.
>
> Hi Mike,
>
> How? (It would be a sad day for us all if more input to a Tank
> lowered its Q were true.)

My thought was, if we couple more energy from the antenna, it loads
the tank more lowering Q. The thought might need more work....

>>Here's a question I have brewing.
>>
>>I have three circuits to put together, a source, a tank and, a load.
>>I have two scenerios. hmm..seems as though I have three!
>>For now assume they are all resistive.
>> These are all set up for maximum power transfer
>
> Actually, that remains to be seen. We must first establish that we
> have the same available power in all three which I will give the
> arbitrary value of 1 to simplify the math. Also, you mix your source
> loading in these models, so in the sense of Norton/Thevenin sources I
> describe the power being supplied by a parallel current source to keep
> the units uniform.
>
>>Scenerio 1.
>>Let's say the tank is 1 megohm.
>>I drive the tank with a 1meg source, so now I have 500Kohm circuit
>>impedance.
> This presumes a parallel current source by your description of the
> input and tank appearing as a 500K circuit. This is why set the
> initial condition of there being a current source for all scenarios.
>>Then I load this with 500Kohm load.
> The parallel current source then sees 250K Ohm for the same power
> available to all scenarios.
> Pavailable = 1 = i��250K
> i = sqrt(1/250K)
> As the current does not divide evenly, then we will work to find the

> power to the load through voltage sharing. Obviously, there is the
> same voltage across the three components, hence:
> e = i•250K = 500
> Pload = e•/500K = 0.50
>
>>Scenerio 2.
>>1 megohm tank.
>>I put a 1 megohm load
>>I can drive the tank with a 500Kohm source,
> This does not qualify either a parallel current nor series voltage
> source, but as both are fungible to design with the same value
> resistance, then I will proceed as before with all three resistors in
> parallel to a parallel current source:
> Pavailable = 1 = i••250K
> i = sqrt(1/250K)
> Obviously, there is the same voltage across the three components,
> hence:
> e = i•250K = 500
> Pload = e•/1000K = 0.25
>
>>Scenerio 3.
>>1 megohm tankThe
>>I drive the tank with 2 megohm source and load it with a 2 megohm load.
>>So..
> This does not qualify either a parallel current nor series voltage
> source, but as both are fungible to design with the same value
> resistance, then I will proceed as before with all three resistors in
> parallel to a parallel current source:
> Pavailable = 1 = i••500K
> i = sqrt(1/500K)
> Obviously, there is the same voltage across the three components,
> hence:
> e = i•500K = 707
> Pload = e•/2000K = 0.25
>
>>I have no clue where maximum power is delivered
>>from the antenna to the load.
>
> Any clues now? Barring any math or conceptual error on my part, then
> by one account more power (that is one measure of success) is
> delivered to the load when its resistance is lowest.

Scenerio 1 is how I have always thought about the system.
Nice to know where max power transfer is.

> How does this impact design priorities?

I'm still at design highest Q tank circuit then transform antenna
to match Z of tank. That's about as I want to go for now.
Not ready to get into that diode thing again.

Unless you've been studying :-)
running for cover.....
Thanks, Mikek

> 73's
> Richard Clark, KB7QHC

92. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 21:03:48 UTC
From: Robert Baer <robertbaer@localnet.com>
Message-ID: <uY2dnZbx9oHfJ63QnZ2dnUVZ_gCdnZ2d@posted.localnet>
Source record: 5992
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
amdx wrote:
> Hi All,
> Please look at this in fixed font.
> I'm looking for understanding of a series to parallel conversion for
> antenna matching.
> I'm pretty sure I'm missing something, so point it out to me.
> This is in regard to a crystal radio, so the match is for a low impedance
> antenna to a high impedance tank circuit.
> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
> The tank: L=240uh C=106pf Q = 1000
> Tank Z =~1.5 Mohms
> Here's my understanding of what I think I'm reading.
> I put a matching capacitor in series with the antenna.
> Antenna--> -----R-----C--------Match cap-----tank------ground.
> and this is supposed to transform the circuit to this.
> ( Maybe better said, equivalent to this)
>
> l------------l
> l l
> Antenna---> R C LC<---Tank
> l l
> l------------l
> ^
> Ground
>
> I calculate an 18.5pf cap for the match, making the antenna look like 58R
> and 17pf.
>
> So this; Antenna--> -----58R-----270pf--------Match
> cap18.5pf-----1.5Mohms------ground.
> This converts to;
> l-----------------l
> l l
> Antenna--->58R 17pf 1.5M<---LC Tank at
> l l Resonance
> l-----------------l
> ^
> Ground
>
> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
> The purpose of which is to cause minimal loading of the tank by the antenna.
> I don't understand how adding a series capacitor makes a parallel
> conversion.
```

> What do I misunderstand or do just need to believe the numbers.
> Thanks, Mikek
>
>
>
Well, that is nominally considered as "matching" in that the coupling
from the antenna is minimal so as to not load the parallel resonant
circuit; a tradeoff actually between energy transfer and loading.
A better way might be to have a low Z tap on the inductor; a method
used in radios since the 60's i think.

93. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 21:14:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4ue1j6dgs4iik6rol7u5ma7sio5qnug24s@4ax.com>
Source record: 5993
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

On Fri, 14 Jan 2011 14:45:25 -0600, "amdx" <amdx@knology.net> wrote:

> Thanks, Mikek

Hi Mike,

You are welcome.

73's
Richard Clark, KB7QHC

94. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 21:46:47 UTC
From: amdx <amdx@knology.net>
Message-ID: <d973e$4d30c449$18d66021$21331@KNOLOGY.NET>
Source record: 5994
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
"Robert Baer" <robertbaer@localnet.com> wrote in message
news:uY2dnZbx9oHfJ63QnZ2dnUVZ_gCdnZ2d@posted.localnet...
> amdx wrote:
>> Hi All,
>> Please look at this in fixed font.
>> I'm looking for understanding of a series to parallel conversion for
>> antenna matching.
>> I'm pretty sure I'm missing something, so point it out to me.
>> This is in regard to a crystal radio, so the match is for a low impedance
>> antenna to a high impedance tank circuit.
>> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
>> The tank: L=240uh C=106pf Q = 1000
>> Tank Z =~1.5 Mohms
>> Here's my understanding of what I think I'm reading.
>> I put a matching capacitor in series with the antenna.
>> Antenna--> -----R-----C--------Match cap-----tank------ground.
>> and this is supposed to transform the circuit to this.
>> ( Maybe better said, equivalent to this)
>>
>> l------------l
>> l l
>> Antenna---> R C LC<---Tank
>> l l
>> l------------l
>> ^
>> Ground
>>
>> I calculate an 18.5pf cap for the match, making the antenna look like 58R
>> and 17pf.
>>
>> So this; Antenna--> -----58R-----270pf--------Match
>> cap18.5pf-----1.5Mohms------ground.
>> This converts to;
>> l-----------------l
>> l l
>> Antenna--->58R 17pf 1.5M<---LC Tank at
>> l l Resonance
>> l-----------------l
>> ^
>> Ground
>>
>> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
>> The purpose of which is to cause minimal loading of the tank by the
```

>> antenna.
>> I don't understand how adding a series capacitor makes a parallel
>> conversion.
>> What do I misunderstand or do just need to believe the numbers.
>> Thanks, Mikek
>>
>>
>>
> Well, that is nominally considered as "matching" in that the coupling
> from the antenna is minimal so as to not load the parallel resonant
> circuit; a tradeoff actually between energy transfer and loading.
> A better way might be to have a low Z tap on the inductor; a method used
> in radios since the 60's i think.

Yes that can be done, but my inductor will be 660/46 litz wire.
I'm sure it's possible to make a tap, but with the cost of litz I don't
want to.
Mikek

95. Re: Rubber antenna for Airband Handie ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 23:44:55 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f0c2cc70-aa39-4c87-8e1e-206179a84404@fm22g2000vbb.googlegroups.com>
Source record: 5996

On Jan 14, 6:17 pm, pilotphil312
<pilotphil312.7768...@radiobanter.com> wrote:
> Does anyone have any idea where I can obtain a replacement antenna for
> an obsolete Icom ICA20 air band hand held radio, I've made a couple
> myself but they're not cosmetically brilliant (!) The IA20 bit
> might not mean a lot in the "States" but the rig covers the VOR band,
> and then 118 - 136 MHz AM.
> The termination is BNC.
>
> Thankx guys
>
> Phil
>
> --
> pilotphil312

google me this:
rubberduck antenna replacement bnc

go through till you find one that looks like it covers the bands you
want.

an example:
http://www.scannermaster.com/All_Band_Rubber_Duck_Portable_BNC_Antenna_p/10-540710.htm

96. Re: Rubber antenna for Airband Handie ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-14 23:57:30 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <igqntf$bp2$1@news.eternal-september.org>
Source record: 5997

"pilotphil312" <pilotphil312.7768df8@radiobanter.com> wrote in message
news:pilotphil312.7768df8@radiobanter.com...
>
> Does anyone have any idea where I can obtain a replacement antenna for
> an obsolete Icom ICA20 air band hand held radio, I've made a couple
> myself but they're not cosmetically brilliant (!) The IA20 bit
> might not mean a lot in the "States" but the rig covers the VOR band,
> and then 118 - 136 MHz AM.
> The termination is BNC.
>
> Thankx guys
>
>
> Phil
> pilotphil312

I guess you want to transmit?

I found this one, but not too sure if its suitable for transmitting.

http://www.scannerworld.com/content/product/model/HHBNCANT

John

97. Re: Rubber antenna for Airband Handie ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 00:03:34 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <igqofg$i4m$1@news.eternal-september.org>
Source record: 5998

"pilotphil312" <pilotphil312.7768df8@radiobanter.com> wrote in message
news:pilotphil312.7768df8@radiobanter.com...
>
> Does anyone have any idea where I can obtain a replacement antenna for
> an obsolete Icom ICA20 air band hand held radio, I've made a couple
> myself but they're not cosmetically brilliant (!) The IA20 bit
> might not mean a lot in the "States" but the rig covers the VOR band,
> and then 118 - 136 MHz AM.
> The termination is BNC.
>
> Thankx guys
>
>
> Phil
>
>
>
>
> --
> pilotphil312

This may be what you are looking for!

https://www.hol4g.com/ac/product.aspx?number=CEN-EXB-118-BNX&p=180174&sc=0
John

98. Re: Rubber antenna for Airband Handie ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 00:07:06 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <igqofh$i4m$2@news.eternal-september.org>
Source record: 5999

"pilotphil312" <pilotphil312.7768df8@radiobanter.com> wrote in message
news:pilotphil312.7768df8@radiobanter.com...
>
> Does anyone have any idea where I can obtain a replacement antenna for
> an obsolete Icom ICA20 air band hand held radio, I've made a couple
> myself but they're not cosmetically brilliant (!) The IA20 bit
> might not mean a lot in the "States" but the rig covers the VOR band,
> and then 118 - 136 MHz AM.
> The termination is BNC.
>
> Thankx guys
>
>
> Phil
>
>
>
>
> --
> pilotphil312

http://www.wpsantennas.com/browseproducts/EXB118BNX---Antenex-%28Centurion%29-118-127MHz-BNC-Male-%28Covered%29-Tuf-Duck-Antenna.HTML

99. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 00:38:40 UTC
From: amdx <amdx@knology.net>
Message-ID: <5679d$4d30ec33$18ec6dd7$6159@KNOLOGY.NET>
Source record: 6000
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

"Antonio Vernucci" <vernucci@tin.it> wrote in message
news:4d2f9340$0$2050$4fafbaef@reader1.news.tin.it...
> Mikek,
>
> on of the main problem of this newsgroup is that people write answers
> without carefully reading the question.
>
> Everyone tends to "convert" the question toward issues he is able to write
> something about, Unfortunately those issues often have little to do with
> the original question.
>
> I am offering you my answer, which may be clear, so and.so, or hardly
> understandable ... I do not know. But be sure that at least I paid maximum
> efforts to appreciate your question (though my numbers do not always match
> yours). I'll try to explain the issue in the easiest way I can, assumimng
> that all components behave in an ideal manner.
>
> Let us first resume your hypotheses:
>
> - the antenna has an impedance equal to the SERIES of a 58-ohm resistance
> and a capacitive reactance of -1,072 ohms which, at 1 MHz, corresponds to
> a 148.5-pF capacitance
> - your aim is to transform that complex impedance into a 1.5-Mohm
> purely-resistive impedance, that would match that of your tank circuit.
>
> That said, you must first appreciate that your antenna can be visualized
> in two ways:
>
> - as the SERIES of R=58ohm, C=148.5pF (as said above)
> - or, by applying the series-to-parallel transformation formula, as the
> PARALLEL of R=19,862ohm, C=148.1pF
>
> These are just two fully equivalent ways of describing the same physical
> antenna. You can freely use the one which suits you best. For our purposes
> let us here visualize your antenna as the parallel of R=19,862ohm,
> C=148.1pF.
>
> That said, assume for a moment that you are able to eliminate in some way
> (i'll tell you after how) the 148.1-pF parallel capacitance. What would
> then remain is a 19,862-ohm resistance, a value which unfortunately does
> not match the 1.5-Mohm figure you wish to get.
>
> So, how to get just 1.5Mohm instead?

>
> Playing with the transformation formulas you would realize that, if the
> SERIES representation of your antenna would hypothetically be R=58 ohm,
> C=54 pF (instead of R=58 ohm, C=148.5 pF as it is in the reality), the
> corresponding PARALLEL representation would then become R=1.5Mohm, C=53.9
> pF. Just the resistance value you wish to get!
>
> But modifying the SERIES representation of your antenna according to your
> needs is very easy: if you put an 85-pF capacitance in series with the
> antenna, its total capacitance would change from C=148.1 pF to C=54pf. And
> the antenna SERIES representation would then become R=58 ohm, C=54 pF, as
> you were aiming at.
>
> Once you have put such 85-pF capacitance in series with your antenna, its
> PARALLEL representation becomes R=1.5 MHohm, C=53.9 pF, as said earlier.
>
> For removing the 53.9-pF residual parallel capacitance, just resonate it
> with a 470-uH parallel inductance. The trick is then done: what remains is
> just the 1.5-Mohm resistance you wanted to get!
>
> In summary:
> - put a 85-pF in series (i.e. in between your antenna and the tank
> circuit)
> - put a 470uH inductance in parallel to the tank (in practice this just
> means to increase the tank inductance by 470uH with respect to its nominal
> value).
>
> 73
>
> Tony I0IX
> Rome, Italy
>
Thank you Tony, for the good description you made.
I wrote a short basic program to calculate the parallel conversion.
I can run the numbers for different frequencies, and different Cs and Rs for
the antenna.
Thanks for the tip about the parallel inductor.
Thanks again, Mikek

100. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 08:58:12 UTC
From: Robert Baer <robertbaer@localnet.com>
Message-ID: <6-ydnXPEb5Iv_KzQnZ2dnUVZ_sSdnZ2d@posted.localnet>
Source record: 5901
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
amdx wrote:
> "Robert Baer" <robertbaer@localnet.com> wrote in message
> news:uY2dnZbx9oHfJ63QnZ2dnUVZ_gCdnZ2d@posted.localnet...
>> amdx wrote:
>>> Hi All,
>>> Please look at this in fixed font.
>>> I'm looking for understanding of a series to parallel conversion for
>>> antenna matching.
>>> I'm pretty sure I'm missing something, so point it out to me.
>>> This is in regard to a crystal radio, so the match is for a low impedance
>>> antenna to a high impedance tank circuit.
>>> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
>>> The tank: L=240uh C=106pf Q = 1000
>>> Tank Z =~1.5 Mohms
>>> Here's my understanding of what I think I'm reading.
>>> I put a matching capacitor in series with the antenna.
>>> Antenna--> -----R-----C--------Match cap-----tank------ground.
>>> and this is supposed to transform the circuit to this.
>>> ( Maybe better said, equivalent to this)
>>>
>>> l------------l
>>> l l
>>> Antenna---> R C LC<---Tank
>>> l l
>>> l------------l
>>> ^
>>> Ground
>>>
>>> I calculate an 18.5pf cap for the match, making the antenna look like 58R
>>> and 17pf.
>>>
>>> So this; Antenna--> -----58R-----270pf--------Match
>>> cap18.5pf-----1.5Mohms------ground.
>>> This converts to;
>>> l-----------------l
>>> l l
>>> Antenna--->58R 17pf 1.5M<---LC Tank at
>>> l l Resonance
>>> l-----------------l
>>> ^
>>> Ground
>>>
>>> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
```

>>> The purpose of which is to cause minimal loading of the tank by the
>>> antenna.
>>> I don't understand how adding a series capacitor makes a parallel
>>> conversion.
>>> What do I misunderstand or do just need to believe the numbers.
>>> Thanks, Mikek
>>>
>>>
>>>
>> Well, that is nominally considered as "matching" in that the coupling
>> from the antenna is minimal so as to not load the parallel resonant
>> circuit; a tradeoff actually between energy transfer and loading.
>> A better way might be to have a low Z tap on the inductor; a method used
>> in radios since the 60's i think.
>
> Yes that can be done, but my inductor will be 660/46 litz wire.
> I'm sure it's possible to make a tap, but with the cost of litz I don't
> want to.
> Mikek
>
>
So what is wrong with winding a "second" layer with only a few truns
(say 1/20 of larger coil) and connecting it series aiding, use whole
"tapped" (now) coil for the LC resonance and the use that (new) tap?
Besides, if it is not would, the amount of the wire would be no
different wether you put a tap in or not.

101. Re: Improving clock radio FM reception

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 08:59:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ldn2j61cctsgl11ns8calc3keaglofa197@4ax.com>
Source record: 5902

On Fri, 14 Jan 2011 23:08:21 +0000, Jake W.
<Jake.W..7768df8@radiobanter.com> wrote:

>
>Richard Clark;729027 Wrote:
>>
>> Sounds like the two Sonys are being overwhelmed by a strong local
>> station. They have no front-end tuning to make them as selective as
>> your, as you describe, analog tuned clock radio.
>>
>
>That seems odd because both stations broadcast from the same place (the
>antenna cluster on top of the Empire State Building). The station I
>want to hear (93.9) has an effective power of 5,400 watts and the
>interfering station's (95.5) is 6,700.

Hi Jake,

The problem is with a radio station you are NOT listening to that
overwhelms you receiver and silences the other (or forces a new
station over the) station you ARE listening to. This comes from the
lack of a tuned circuit in the receiver.

Your manual tune radio apparently has just such a tuned circuit which
you adjust by hand with the twist of a knob (old-school). Cheap sets
are tuned digitally (even though some of them, too, have a twist knob
to do it) and have no tuned circuit. What you describe is the classic
difference between the two, and living in a dense urban environment
increases the number AND proximity of strong stations that could lead
to this problem you describe.

If you have the provision for attaching an external antenna to the
problem receivers, then using a "rabbit ears" antenna, with careful
length adjustment might help (but it would seem unlikely). Notch
filters would also offer help, but this may be too sophisticated for
you if you are not a Ham or techie, and you are just visiting our
forum to tap our experience (which is perfectly OK).

>
>Does this seem like a situation where the one is likely to overwhelm the
>other, especially considering that they're not exactly neighbors on the
>dial? As a general matter, is it normal for a tuner to pick up separate
>frequencies when tuned to one?

It is found in all single conversion receivers and is called "Image"
reception. It can be observed when the interfering station is

different from the one you are listening to by twice the Intermediate Frequency. For FM, the IF (Intermediate Frequency) is generally 10.5 MHz. Now, given the FM band is only 20MHz wide, this condition is not commonly found in FM receivers. However, there are other transmitters nearby in the TV low VHF bands (if they have not gone dormant due to the DTV conversion). The aviation band is above FM, but it would seem unlikely to be the source of your problem by this mechanism.

Then it could be a very strong signal crowding its way in.

73's
Richard Clark, KB7QHC

102. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 13:25:55 UTC
From: joe <none@domain.invalid>
Message-ID: <igs6udtrg2@speranza.aioe.org>
Source record: 5903

amdx wrote:
> "Robert Baer" <robertbaer@localnet.com> wrote in message

>>>
>> Well, that is nominally considered as "matching" in that the coupling
>> from the antenna is minimal so as to not load the parallel resonant
>> circuit; a tradeoff actually between energy transfer and loading.
>> A better way might be to have a low Z tap on the inductor; a method used
>> in radios since the 60's i think.
>
> Yes that can be done, but my inductor will be 660/46 litz wire.
> I'm sure it's possible to make a tap, but with the cost of litz I don't
> want to.
> Mikek
>
>

Saving a few cents on Lits wire will cost you almost half of the power
you could deliver to the tank.

This won't give you maximum power transfer.

103. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 13:49:53 UTC
From: amdx <amdx@knology.net>
Message-ID: <16c21$4d31a59d$18ec6dd7$27164@KNOLOGY.NET>
Source record: 5905
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.design

```
"Robert Baer" <robertbaer@localnet.com> wrote in message
news:6-ydnXPEb5Iv_KzQnZ2dnUVZ_sSdnZ2d@posted.localnet...
> amdx wrote:
>> "Robert Baer" <robertbaer@localnet.com> wrote in message
>> news:uY2dnZbx9oHfJ63QnZ2dnUVZ_gCdnZ2d@posted.localnet...
>>> amdx wrote:
>>>> Hi All,
>>>> Please look at this in fixed font.
>>>> I'm looking for understanding of a series to parallel conversion for
>>>> antenna matching.
>>>> I'm pretty sure I'm missing something, so point it out to me.
>>>> This is in regard to a crystal radio, so the match is for a low
>>>> impedance antenna to a high impedance tank circuit.
>>>> The antenna: R=58 ohms C=1072 ohms at 1Mhz.
>>>> The tank: L=240uh C=106pf Q = 1000
>>>> Tank Z =~1.5 Mohms
>>>> Here's my understanding of what I think I'm reading.
>>>> I put a matching capacitor in series with the antenna.
>>>> Antenna--> -----R-----C--------Match cap-----tank------ground.
>>>> and this is supposed to transform the circuit to this.
>>>> ( Maybe better said, equivalent to this)
>>>>
>>>> l------------l
>>>> l l
>>>> Antenna---> R C LC<---Tank
>>>> l l
>>>> l------------l
>>>> ^
>>>> Ground
>>>>
>>>> I calculate an 18.5pf cap for the match, making the antenna look like
>>>> 58R and 17pf.
>>>>
>>>> So this; Antenna--> -----58R-----270pf--------Match
>>>> cap18.5pf-----1.5Mohms------ground.
>>>> This converts to;
>>>> l-----------------l
>>>> l l
>>>> Antenna--->58R 17pf 1.5M<---LC Tank at
>>>> l l Resonance
>>>> l-----------------l
>>>> ^
>>>> Ground
```

>>>>
>>>> And I now have a 1.5 Mohms source feeding a 1.5 Mohm load.
>>>> The purpose of which is to cause minimal loading of the tank by the
>>>> antenna.
>>>> I don't understand how adding a series capacitor makes a parallel
>>>> conversion.
>>>> What do I misunderstand or do just need to believe the numbers.
>>>> Thanks, Mikek
>>>>
>>>>
>>>>
>>> Well, that is nominally considered as "matching" in that the coupling
>>> from the antenna is minimal so as to not load the parallel resonant
>>> circuit; a tradeoff actually between energy transfer and loading.
>>> A better way might be to have a low Z tap on the inductor; a method
>>> used in radios since the 60's i think.
>>
>> Yes that can be done, but my inductor will be 660/46 litz wire.
>> I'm sure it's possible to make a tap, but with the cost of litz I don't
>> want to.
>> Mikek
> So what is wrong with winding a "second" layer with only a few truns
> (say 1/20 of larger coil) and connecting it series aiding, use whole
> "tapped" (now) coil for the LC resonance and the use that (new) tap?
> Besides, if it is not would, the amount of the wire would be no
> different wether you put a tap in or not.

Nothing wrong with that at all, there are many ways to build a crystal
radio.
Here's just 77 of them.
Have fun, Mikek

104. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 13:50:13 UTC
From: joe <none@domain.invalid>
Message-ID: <igs8bu$2nj$2@speranza.aioe.org>
Source record: 5904

joe wrote:

>
> Saving a few cents on Lits wire will cost you almost half of the power
> you could deliver to the tank.
>
> This won't give you maximum power transfer.
>
Correction: You'll lose much more than half the power.

105. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-15 19:00:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8jr3j65upujolhcef8b75du3f47v43ie9r@4ax.com>
Source record: 5906

On Sat, 15 Jan 2011 07:50:13 -0600, joe <none@domain.invalid> wrote:

>joe wrote:
>
>>
>> Saving a few cents on Lits wire will cost you almost half of the power
>> you could deliver to the tank.
>>
>> This won't give you maximum power transfer.
>>
>Correction: You'll lose much more than half the power.

Hi Joe,

Care to go deeper? Would that "more than half the power" be 3.1dB?
6dB? 20dB?

Why "half the power" as a round number instead of a tenth?

73's
Richard Clark, KB7QHC

106. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 00:39:01 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <hgf4j6hb24saob4c37mlfb9m6mb39fqcmf@4ax.com>
Source record: 5907

On Fri, 07 Jan 2011 20:21:47 -0600, tom <news4792@taring.org> wrote:

>On 1/7/2011 8:07 PM, bpuharic wrote:
>> Just got a honda element...any way to put a whip on it w/o cutting it?
>> thanks much
>
>Well there's always thru-the-glass. It's not the most efficient in my
>experience (which is limited with respect to these) but it seems to work
>well enough if you have a decent repeater system that is the target.
>One plus is that you can usually get most of the half wave above the
>roofline.
>
>For all around flexibility I still like the simple quarter wave vertical
>for 2m FM. Enough high angle for metro downtown use, but that involves
>either holes or magnets.
>
>tom
>K0TAR

sorry...my mistake. this is an HF whip antenna

107. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 00:39:43 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <phf4j65bmli20qdh2nnf2vo3otk7354ebb@4ax.com>
Source record: 5908

On Sun, 09 Jan 2011 11:52:35 -0600, joe <none@domain.invalid> wrote:

>bpuharic wrote:
>> Just got a honda element...any way to put a whip on it w/o cutting it?
>> thanks much
>
>My older Element had plastic covers over the mounts for the roof rack.
>Perhaps you can mount the antenna to the same brackets.

this one doesnt have a roof rack, unfortunately.

they thought of eveything!

108. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 02:04:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4d325225$0$6705$8046368a@newsreader.iphouse.net>
Source record: 5909

On 1/15/2011 6:39 PM, bpuharic wrote:
> On Fri, 07 Jan 2011 20:21:47 -0600, tom<news4792@taring.org> wrote:
>
>> On 1/7/2011 8:07 PM, bpuharic wrote:
>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>> thanks much
>>
>> Well there's always thru-the-glass. It's not the most efficient in my
>> experience (which is limited with respect to these) but it seems to work
>> well enough if you have a decent repeater system that is the target.
>> One plus is that you can usually get most of the half wave above the
>> roofline.
>>
>> For all around flexibility I still like the simple quarter wave vertical
>> for 2m FM. Enough high angle for metro downtown use, but that involves
>> either holes or magnets.
>>
>> tom
>> K0TAR
>
>
> sorry...my mistake. this is an HF whip antenna

Please clarify then - do you want to avoid cutting the whip, or the car?

tom
K0TAR

109. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 02:10:07 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <bqk4j613o4rem0036s2ohla9qnvv24tqv7@4ax.com>
Source record: 5910

On Sat, 15 Jan 2011 20:04:26 -0600, tom <news4792@taring.org> wrote:

>On 1/15/2011 6:39 PM, bpuharic wrote:
>> On Fri, 07 Jan 2011 20:21:47 -0600, tom<news4792@taring.org> wrote:
>>
>>> On 1/7/2011 8:07 PM, bpuharic wrote:
>>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>>> thanks much
>>>
>>> Well there's always thru-the-glass. It's not the most efficient in my
>>> experience (which is limited with respect to these) but it seems to work
>>> well enough if you have a decent repeater system that is the target.
>>> One plus is that you can usually get most of the half wave above the
>>> roofline.
>>>
>>> For all around flexibility I still like the simple quarter wave vertical
>>> for 2m FM. Enough high angle for metro downtown use, but that involves
>>> either holes or magnets.
>>>
>>> tom
>>> K0TAR
>>
>>
>> sorry...my mistake. this is an HF whip antenna
>
>Please clarify then - do you want to avoid cutting the whip, or the car?

would prefer not cutting the car. on my old honda CRV i had a piece of
angled aluminim i bolted to the spare tire mount. the element is
protrusion free, unfortunately, so there's nothing to hang anything on

>
>tom
>K0TAR

110. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 03:29:00 UTC
From: joe <none@domain.invalid>
Message-ID: <igtob7oop1@speranza.aioe.org>
Source record: 5911

Richard Clark wrote:
> On Sat, 15 Jan 2011 07:50:13 -0600, joe <none@domain.invalid> wrote:
>
>> joe wrote:
>>
>>> Saving a few cents on Lits wire will cost you almost half of the power
>>> you could deliver to the tank.
>>>
>>> This won't give you maximum power transfer.
>>>
>> Correction: You'll lose much more than half the power.
>
> Hi Joe,
>
> Care to go deeper? Would that "more than half the power" be 3.1dB?
> 6dB? 20dB?
>
> Why "half the power" as a round number instead of a tenth?
>
> 73's
> Richard Clark, KB7QHC

Why, because I chose not to go into detail.

If you look only at a resistive source impedance, the most power we can get is

((Vsource/2)**2)/Rsource

Now the example starts with Rsource = 58 ohms and is trying to transform that to match a 1.5 Meg load. The power available from a source with 1.5 M source impedance is much less than that from a 58 ohm source.

Hint : 58/1.5M

So, doing something to match the tank to the load could be much more effective. A tapped coil or additional winding has been suggested.

111. Re: Understanding Parallel to Series conversion

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 05:30:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4qv4j695d22ihjsf8co6vffi7tpif7lrcu@4ax.com>
Source record: 5912

On Sat, 15 Jan 2011 21:29:00 -0600, joe <none@domain.invalid> wrote:

>If you look only at a resistive source impedance, the most power we can
>get is

Hi Joe,

It is a given that from the power available in the field, only half of
it at most will be captured - ever.

>So, doing something to match the tank to the load could be much more
>effective. A tapped coil or additional winding has been suggested.

Well, the discussion took a branch into resistive networks for the
simplicity of discussion, not as an example of a solution to the
practical problem.

A tapped coil is an excellant choice, of course, I offered that option
myself. A secondary coil, also suggested, is just as useful.

73's
Richard Clark, KB7QHC

112. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 06:11:42 UTC
From: Howard K0ACF <howardk0acf@knology.net>
Message-ID: <68c04$4d328c17$d8feea72$31787@KNOLOGY.NET>
Source record: 5913

Don't know your car, but does it have a hitch?, if it does you can make a mount & bolt it to the hitch or where the hitch is bolted...Go to some of the screwdriver dealers like High Sierra & look at all the mounts on many vehicles to give you an idea...Howard K0ACF
"bpuharic" <wf3h@comcast.net> wrote in message news:phf4j65bmli20qdh2nnf2vo3otk7354ebb@4ax.com...
> On Sun, 09 Jan 2011 11:52:35 -0600, joe <none@domain.invalid> wrote:
>
>>bpuharic wrote:
>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>> thanks much
>>
>>My older Element had plastic covers over the mounts for the roof rack.
>>Perhaps you can mount the antenna to the same brackets.
>
> this one doesnt have a roof rack, unfortunately.
>
> they thought of eveything!

113. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 14:21:42 UTC
From: joe <none@domain.invalid>
Message-ID: <iguuis$78v$1@speranza.aioe.org>
Source record: 5914

bpuharic wrote:
> On Sun, 09 Jan 2011 11:52:35 -0600, joe <none@domain.invalid> wrote:
>
>> bpuharic wrote:
>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>> thanks much
>> My older Element had plastic covers over the mounts for the roof rack.
>> Perhaps you can mount the antenna to the same brackets.
>
> this one doesnt have a roof rack, unfortunately.
>
> they thought of eveything!

I think you missed my point. Look at page 2.
https://estore.honda.com/ext_html/pdf/element/element-03-roof-rack-installation.pdf

114. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 16:12:54 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <3566j6df12gkei37dkvsl2hcu8f0id1959@4ax.com>
Source record: 5915

On Sun, 16 Jan 2011 00:11:42 -0600, "Howard K0ACF"
<howardk0acf@knology.net> wrote:

>Don't know your car, but does it have a hitch?, if it does you can make a
>mount & bolt it to the hitch or where the hitch is bolted...Go to some of
>the screwdriver dealers like High Sierra & look at all the mounts on many
>vehicles to give you an idea...Howard K0ACF

hi howard and thanks...no, i checked that. the element is barren of
any attachment points...very well thought out!

i used to have a screwdriver. liked it but it was a BITCH to ground
and it wouldnt work right without a great ground...

but looking at the mounts for the high sierra may give me some
ideas....

115. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 16:15:11 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <kb66j6p45t2pahoj472iblectl82cl7k5b@4ax.com>
Source record: 5916

On Sun, 16 Jan 2011 08:21:42 -0600, joe <none@domain.invalid> wrote:

>bpuharic wrote:
>> On Sun, 09 Jan 2011 11:52:35 -0600, joe <none@domain.invalid> wrote:
>>
>>> bpuharic wrote:
>>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>>> thanks much
>>> My older Element had plastic covers over the mounts for the roof rack.
>>> Perhaps you can mount the antenna to the same brackets.
>>
>> this one doesnt have a roof rack, unfortunately.
>>
>> they thought of eveything!
>
>I think you missed my point. Look at page 2.
>https://estore.honda.com/ext_html/pdf/element/element-03-roof-rack-installation.pdf

thanks, joe! that's a possibility and it would get the whip above roof
level.

116. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 17:05:27 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <igv8gj$6dk$1@news.eternal-september.org>
Source record: 5917

"bpuharic" <wf3h@comcast.net> wrote in message
news:3566j6df12gkei37dkvsl2hcu8f0id1959@4ax.com...
> On Sun, 16 Jan 2011 00:11:42 -0600, "Howard K0ACF"
> <howardk0acf@knology.net> wrote:
>
>>Don't know your car, but does it have a hitch?, if it does you can make a
>>mount & bolt it to the hitch or where the hitch is bolted...Go to some of
>>the screwdriver dealers like High Sierra & look at all the mounts on many
>>vehicles to give you an idea...Howard K0ACF
>
> hi howard and thanks...no, i checked that. the element is barren of
> any attachment points...very well thought out!
>
Some years back, I went to a welding shop and asked them to weld a steel
strap to the car for an antenna mount. They found a spot on the left rear
where the strap would stick out and hold a mobile antenna. The shop rounded
the edges on the part of the strap sticking out, and drilled a hole in the
strap for the insulated whip connector. It worked out great.
--Wayne W5GIE

117. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-16 18:42:21 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <mve6j65oncof25oq1imbpgabomar1d5p8t@4ax.com>
Source record: 5918

On Sun, 16 Jan 2011 09:05:27 -0800, "Wayne" <mygarbagecan@verizon.net>
wrote:

>
>"bpuharic" <wf3h@comcast.net> wrote in message
>news:3566j6df12gkei37dkvsl2hcu8f0id1959@4ax.com...
>> On Sun, 16 Jan 2011 00:11:42 -0600, "Howard K0ACF"
>> <howardk0acf@knology.net> wrote:
>>
>>>Don't know your car, but does it have a hitch?, if it does you can make a
>>>mount & bolt it to the hitch or where the hitch is bolted...Go to some of
>>>the screwdriver dealers like High Sierra & look at all the mounts on many
>>>vehicles to give you an idea...Howard K0ACF
>>
>> hi howard and thanks...no, i checked that. the element is barren of
>> any attachment points...very well thought out!
>>
>Some years back, I went to a welding shop and asked them to weld a steel
>strap to the car for an antenna mount. They found a spot on the left rear
>where the strap would stick out and hold a mobile antenna. The shop rounded
>the edges on the part of the strap sticking out, and drilled a hole in the
>strap for the insulated whip connector. It worked out great.
>--Wayne W5GIE
>

i've been giving that some thought. may talk to my mechanic to see if
he can recommend a spot...

118. Re: Improving clock radio FM reception

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-17 01:12:16 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1ffa4c9d-66aa-4e0d-a0d3-19e7f74c0987@j25g2000vbs.googlegroups.com>
Source record: 5919

Andy comments:
You mean 10.7 mhz instead of 10.5.....

Andy in Eureka, W4OAH

119. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-19 01:48:17 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <7f4167ea-e1dc-4859-8e2a-a33f39fdfe10@fo10g2000vbb.googlegroups.com>
Source record: 5920

On Jan 7, 10:07 pm, bpuharic <w...@comcast.net> wrote:
> Just got a honda element...any way to put a whip on it w/o cutting it?
> thanks much

I drilled a hole in the ceneter of the roof of my wifes Nissan. Two
years later traded it in. I removed the antenna mount and plugged it
with a snap in rubber plug. No effect on resale value.

Jimmie

120. LATEST HOT PICS &VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-19 06:02:46 UTC
From: SAMARA <jaidatta9247@gmail.com>
Message-ID: <24a0b9df-56ea-45f2-b905-de87b8518d0b@p7g2000prb.googlegroups.com>
Source record: 5921

NIKISHA HOT BOOBS
http://karomasti9.blogspot.com/search/label/nikisha
PRIYANKA SPICY LATEST PICS
http://karomasti9.blogspot.com/search/label/priyanka
ONLY FOR YOUTH
http://karomasti9.blogspot.com/search/label/spicy
SRILEKHA UNSEENED PHOTOS
http://karomasti9.blogspot.com/search/label/Srilekha
CHOPRA UNBELIVABLE PHOTOS
http://karomasti9.blogspot.com/search/label/chopra
HOT BIPASA BASU PHOTOS
http://karomasti9.blogspot.com/search/label/bipasa
TRISHA IN A SEXY FEEL
http://karomasti9.blogspot.com/search/label/thrisha
SRISHA HOT BOOBS SHOW
http://karomasti9.blogspot.com/search/label/srisha
BEAUTIFUL POONAM PHOTOS
http://karomasti9.blogspot.com/search/label/poonam

121. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-19 23:43:18 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <4ntej6t5d6vup7uptu4748e61nj7klgljp@4ax.com>
Source record: 5922

On Tue, 18 Jan 2011 17:48:17 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>On Jan 7, 10:07ï¿½pm, bpuharic <w...@comcast.net> wrote:
>> Just got a honda element...any way to put a whip on it w/o cutting it?
>> thanks much
>
>I drilled a hole in the ceneter of the roof of my wifes Nissan. Two
>years later traded it in. I removed the antenna mount and plugged it
>with a snap in rubber plug. No effect on resale value.
>
>
>Jimmie

i've read about that...any problems with hitting stuff with the
antenna?

122. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-20 10:44:44 UTC
From: david <none@nospam.com>
Message-ID: <ih93ms$4cg$2@news.eternal-september.org>
Source record: 5923

On Wed, 19 Jan 2011 18:43:18 -0500, bpuharic rearranged some electrons to
say:

> On Tue, 18 Jan 2011 17:48:17 -0800 (PST), JIMMIE
> <JIMMIEDEE123@YAHOO.COM> wrote:
>
>>On Jan 7, 10:07 pm, bpuharic <w...@comcast.net> wrote:
>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>> thanks much
>>
>>I drilled a hole in the ceneter of the roof of my wifes Nissan. Two
>>years later traded it in. I removed the antenna mount and plugged it
>>with a snap in rubber plug. No effect on resale value.
>>
>>
>>Jimmie
>
> i've read about that...any problems with hitting stuff with the antenna?

Uhhh... not if you remember it's there.

123. Inverted L for AMBCB listening

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-20 16:40:47 UTC
From: amdx <amdx@knology.net>
Message-ID: <60af2$4d386557$18ec6dd7$7049@KNOLOGY.NET>
Source record: 5924

I'm about to install a 125 ft long antenna 30 ft high.
Is there any advantage to bringing the far end back
down to the ground or near the ground.
What does this extra wire do to the impedance?
Pattern?

Thanks, Mikek

124. Re: Inverted L for AMBCB listening

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-20 19:04:24 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <JrVSxhG4cIONFw91@g3ohx.demon.co.uk>
Source record: 5925

In message <60af2$4d386557$18ec6dd7$7049@KNOLOGY.NET>, amdx
<amdx@knology.net> writes
>I'm about to install a 125 ft long antenna 30 ft high.
>Is there any advantage to bringing the far end back
>down to the ground or near the ground.
> What does this extra wire do to the impedance?
>Pattern?
>
It will probably lower the various 'natural' resonant frequencies a
little, and also change the angles and directions of signal pickup.
However, I don't think that you're unlikely to notice much difference.

If you do want to bring the far end down to ground level, you might like
to consider the potential reduction of local noise by inserting a
(typically) 9:1 impedance transformer and far end ground, and bringing
the RF signal back to the house via coax.
--
Ian

125. Re: Inverted L for AMBCB listening

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-20 19:37:27 UTC
From: amdx <amdx@knology.net>
Message-ID: <a14ef$4d388ebf$18ec6dd7$18157@KNOLOGY.NET>
Source record: 5926

"Ian Jackson" <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in message
news:JrVSxhG4cIONFw91@g3ohx.demon.co.uk...
> In message <60af2$4d386557$18ec6dd7$7049@KNOLOGY.NET>, amdx
> <amdx@knology.net> writes
>>I'm about to install a 125 ft long antenna 30 ft high.
>>Is there any advantage to bringing the far end back
>>down to the ground or near the ground.
>> What does this extra wire do to the impedance?
>>Pattern?
>>
> It will probably lower the various 'natural' resonant frequencies a
> little, and also change the angles and directions of signal pickup.
> However, I don't think that you're unlikely to notice much difference.
>
> If you do want to bring the far end down to ground level, you might like
> to consider the potential reduction of local noise by inserting a
> (typically) 9:1 impedance transformer and far end ground, and bringing the
> RF signal back to the house via coax.
> --
> Ian

I got the wire up this morning/afternoon, I did leave the wire long at the
far end so
it will reach the ground. I'm not sure what I will do with it yet.
I'll add a little more info, it will have a dual purpose, First, I'm going
to characterize
it as a long wire for use with a crystal radio. I want to optimize it for
that.
I had thought about running a counterpoise along a fence, but I found a
better
tree that runs at an angle to the fence. How close does a counterpoise need
to
follow the antenna?

How do you think a chain link fence will work as a (grounded) counterpoise?

When the crystal radio excitement has run its course, I'll use it as an
antenna for
my general coverage radio, with that it's still mostly am BCB, but some 80
meter
listening too.
Thanks, Mikek

126. Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-20 21:32:34 UTC
From: amdx <amdx@knology.net>
Message-ID: <7d807$4d38a9a3$18ec6dd7$17891@KNOLOGY.NET>
Source record: 5927

I recall an article in QST or "73", I think the title was,
"For the L of it"
I'm looking for the magazine it was in and the date it was printed.
The article described a series LC, a fixed L and a air variable C.
The impedance of the L was bigger than the impedance of the C,
and by adjusting the C you caused the inductance to vary.
So in effect you have a variable inductor.
Thanks, Mikek

127. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-20 21:40:55 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <ihaa58$20s$1@news.eternal-september.org>
Source record: 5928

```
"david" <none@nospam.com> wrote in message
news:ih93ms$4cg$2@news.eternal-september.org...
> On Wed, 19 Jan 2011 18:43:18 -0500, bpuharic rearranged some electrons to
> say:
>
>> On Tue, 18 Jan 2011 17:48:17 -0800 (PST), JIMMIE
>> <JIMMIEDEE123@YAHOO.COM> wrote:
>>
>>>On Jan 7, 10:07 pm, bpuharic <w...@comcast.net> wrote:
>>>> Just got a honda element...any way to put a whip on it w/o cutting it?
>>>> thanks much
>>>
>>>I drilled a hole in the ceneter of the roof of my wifes Nissan. Two
>>>years later traded it in. I removed the antenna mount and plugged it
>>>with a snap in rubber plug. No effect on resale value.
>>>
>>>
>>>Jimmie
>>
>> i've read about that...any problems with hitting stuff with the antenna?
>
> Uhhh... not if you remember it's there.
-
Carry a piggy bank in the car. Every time you hit something, throw a fiver
in the bank. Pretty soon, you will remember.
--Wayne
```

128. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-20 22:37:11 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <83d78a34-fcc4-4de7-af30-bf8f95e9abef@fx12g2000vbb.googlegroups.com>
Source record: 5929

On Jan 20, 5:32 pm, "amdx" <a...@knology.net> wrote:
> I recall an article in QST or "73", I think the title was,
> "For the L of it"
> I'm looking for the magazine it was in and the date it was printed.
> The article described a series LC, a fixed L and a air variable C.
> The impedance of the L was bigger than the impedance of the C,
> and by adjusting the C you caused the inductance to vary.
> So in effect you have a variable inductor.
>   Thanks,   Mikek

Or two caps in series connected paralell to an inductor. Input or
output at the juction of the caps. This concept of the circuit may be
more easily found in various reference manuals. You may find these
caps labeled TUNE and LOAD in some circuits.

Jimmie

Jimmie

129. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-21 00:47:02 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <7b684733-4be5-4e9e-93fb-96656c452857@r40g2000prh.googlegroups.com>
Source record: 5930

On Jan 20, 3:32 pm, "amdx" <a...@knology.net> wrote:
> I recall an article in QST or "73", I think the title was,
> "For the L of it"
> I'm looking for the magazine it was in and the date it was printed.
> The article described a series LC, a fixed L and a air variable C.
> The impedance of the L was bigger than the impedance of the C,
> and by adjusting the C you caused the inductance to vary.
> So in effect you have a variable inductor.
> Thanks, Mikek

I recall the article and have it around somewhere. The problem with this (if you want to call it a problem) is it only works for a small range of frequencies.

For instance, at 10 MHZ a series 1.6uH L and 318 pF C looks like a .8uH inductor (good). But at 5.76 MHZ the combination looks like 30 ohm Xc capacitor. At 7.0 MHZ it looks like a short because of series resonance.

I would not want to replace the roller inductor on my 80-10 antenna tuner with this, but there are other applications (single frequency) where it should work just fine.

Gary N4AST

130. Re: ESD Protection ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-21 09:16:41 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <077ccc7a-9da3-4a4b-967c-2b24153b841f@n10g2000yqd.googlegroups.com>
Source record: 5931

On Jan 8, 9:08 pm, KD7HB <co_far...@yahoo.com> wrote:
> Does the radio have any coils in the front end? Like the old-time radios, a primary coil between the antenna and chassis ground. If it has coils, there is NO way for static electricity to build up beyond millivolts, since all is at DC ground.
>

> Paul, KD7HB

Andy adds:

Another way to accomplish the coil isolation would be to use a
1:1
50 ohm wideband transformer from Mini-Ckts lab. They are only a
couple dollars...
If you have a good parts box, you can wind one yourself as they are
very simple. The ARRL handbook can give you guidance if you are
not familiar with the technique. Simply a bifilar winding around a
small ferrite toroid.....

I'd also still use a couple of backtoback diodes, in parallel with
a
neon lamp. Couldn't hurt..... might help, once.....

Andy W4OAH

131. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-21 16:46:40 UTC
From: Eskay <siebklaasNO@SPAMhotmail.com>
Message-ID: <ihcr8yq6oe7i$.t29i3b9ae5gy$.dlg@40tude.net>
Source record: 5932

On Thu, 20 Jan 2011 15:32:34 -0600, amdx wrote:

> I recall an article in QST or "73", I think the title was,
> "For the L of it"
> I'm looking for the magazine it was in and the date it was printed.
> The article described a series LC, a fixed L and a air variable C.
> The impedance of the L was bigger than the impedance of the C,
> and by adjusting the C you caused the inductance to vary.
> So in effect you have a variable inductor.
> Thanks, Mikek

73 magazine March 1980 page 40. I have the magazine and I have a scanner.
If you want a copy let me know.
73 de VE3JUA

132. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-21 17:34:39 UTC
From: amdx <amdx@knology.net>
Message-ID: <e5e86$4d39c3a8$45013905$21305@KNOLOGY.NET>
Source record: 5933

"Eskay" <siebklaasNO@SPAMhotmail.com> wrote in message
news:ihcr8yq6oe7i$.t29i3b9ae5gy$.dlg@40tude.net...
> On Thu, 20 Jan 2011 15:32:34 -0600, amdx wrote:
>
>> I recall an article in QST or "73", I think the title was,
>> "For the L of it"
>> I'm looking for the magazine it was in and the date it was printed.
>> The article described a series LC, a fixed L and a air variable C.
>> The impedance of the L was bigger than the impedance of the C,
>> and by adjusting the C you caused the inductance to vary.
>> So in effect you have a variable inductor.
>> Thanks, Mikek
>
> 73 magazine March 1980 page 40. I have the magazine and I have a scanner.
> If you want a copy let me know.
> 73 de VE3JUA

Thank you VE,
I do want a scan.
Email to,
amdx@NONOknology.net
Remove NONO.
Thank you very much, Mikek

133. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-21 17:42:43 UTC
From: Eskay <siebklaasNO@SPAMhotmail.com>
Message-ID: <952ql6h5vugk$.1d0syr1awpqtk.dlg@40tude.net>
Source record: 5934

On Fri, 21 Jan 2011 11:34:39 -0600, amdx wrote:

> "Eskay" <siebklaasNO@SPAMhotmail.com> wrote in message
> news:ihcr8yq6oe7i$.t29i3b9ae5gy$.dlg@40tude.net...
>> On Thu, 20 Jan 2011 15:32:34 -0600, amdx wrote:
>>
>>> I recall an article in QST or "73", I think the title was,
>>> "For the L of it"
>>> I'm looking for the magazine it was in and the date it was printed.
>>> The article described a series LC, a fixed L and a air variable C.
>>> The impedance of the L was bigger than the impedance of the C,
>>> and by adjusting the C you caused the inductance to vary.
>>> So in effect you have a variable inductor.
>>> Thanks, Mikek
>>
>> 73 magazine March 1980 page 40. I have the magazine and I have a scanner.
>> If you want a copy let me know.
>> 73 de VE3JUA
>
> Thank you VE,
> I do want a scan.
> Email to,
> amdx@NONOknology.net
> Remove NONO.
> Thank you very much, Mikek

Coming soon. Sieb.

134. Re: ESD Protection ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-21 18:34:52 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ihcjkcvra1@news.jpl.nasa.gov>
Source record: 5935

AndyS wrote:
> On Jan 8, 9:08 pm, KD7HB <co_far...@yahoo.com> wrote:
>> Does the radio have any coils in the front end? Like the old-time radios, a primary coil between the antenna and chassis ground. If it has coils, there is NO way for static electricity to build up beyond millivolts, since all is at DC ground.
>>
>
>> Paul, KD7HB
>
> Andy adds:
>
> Another way to accomplish the coil isolation would be to use a
> 1:1
> 50 ohm wideband transformer from Mini-Ckts lab. They are only a
> couple dollars...
> If you have a good parts box, you can wind one yourself as they are
> very simple. The ARRL handbook can give you guidance if you are
> not familiar with the technique. Simply a bifilar winding around a
> small ferrite toroid.....
>
> I'd also still use a couple of backtoback diodes, in parallel with
> a
> neon lamp. Couldn't hurt........ might help, once.......
>
> Andy W4OAH
>

Back to back diodes will cause a problem if you have strong signals in the area (enough to get the diodes to start to conduct) from intermod.

Neon lamp fires at 60-70 volts.. hopefully whatever is downstream can tolerate that.

It's a classic problem.. all the things that protect the front end also degrade the performance in one way or another. You have to make the decision about whether you want best performance and highest risk or vice versa.

135. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-21 20:58:33 UTC
From: amdx <amdx@knology.net>
Message-ID: <e9676$4d39f357$45013905$20017@KNOLOGY.NET>
Source record: 5936

"Eskay" <siebklaasNO@SPAMhotmail.com> wrote in message
news:952ql6h5vugk$.1d0syr1awpqtk.dlg@40tude.net...
> On Fri, 21 Jan 2011 11:34:39 -0600, amdx wrote:
>
>> "Eskay" <siebklaasNO@SPAMhotmail.com> wrote in message
>> news:ihcr8yq6oe7i$.t29i3b9ae5gy$.dlg@40tude.net...
>>> On Thu, 20 Jan 2011 15:32:34 -0600, amdx wrote:
>>>
>>>> I recall an article in QST or "73", I think the title was,
>>>> "For the L of it"
>>>> I'm looking for the magazine it was in and the date it was printed.
>>>> The article described a series LC, a fixed L and a air variable C.
>>>> The impedance of the L was bigger than the impedance of the C,
>>>> and by adjusting the C you caused the inductance to vary.
>>>> So in effect you have a variable inductor.
>>>> Thanks, Mikek
>>>
>>> 73 magazine March 1980 page 40. I have the magazine and I have a
>>> scanner.
>>> If you want a copy let me know.
>>> 73 de VE3JUA
>>
>> Thank you VE,
>> I do want a scan.
>> Email to,
>> amdx@NONOknology.net
>> Remove NONO.
>> Thank you very much, Mikek
>
> Coming soon. Sieb.

I got them, look good.
Thank you, Mikek

136. Software for antena rotators control

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-22 11:22:23 UTC
From: Codrut <codrut.buda@gmail.com>
Message-ID: <8071747a-b2f6-4f72-b9ad-a42c414c0bda@s9g2000vby.googlegroups.com>
Source record: 5937

PstRotator is a program for antenna rotators control -
http://www.qsl.net/yo3dmu/index_Page346.htm
It works with a wide variety of rotators, supports a lot of loggers,
DX cluster clients, satellites and moon trackers, and supports multi-
user remote operation over the Internet. The user interface offers
quite a selection of methods for pointing and display, as well.

137. Software for antenna rotators control

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-22 12:10:37 UTC
From: yo3dmu <yo3dmu.780c598@radiobanter.com>
Message-ID: <yo3dmu.780c598@radiobanter.com>
Source record: 5940

PstRotator is a program for antenna rotators control -
http://www.qsl.net/yo3dmu/index_Page346.htm
It works with a wide variety of rotators, supports a lot of loggers,
DX cluster clients, satellites and moon trackers, and supports multi-
user remote operation over the Internet. The user interface offers
quite a selection of methods for pointing and display, as well.

--
yo3dmu

138. Re: Software for antena rotators control

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-22 13:57:23 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <c25cd60e-40e7-41f6-b2f0-81f9463ad891@k42g2000yqa.googlegroups.com>
Source record: 5938

On Jan 22, 11:22 am, Codrut <codrut.b...@gmail.com> wrote:
> PstRotator is a program for antenna rotators control
-http://www.qsl.net/yo3dmu/index_Page346.htm
> It works with a wide variety of rotators, supports a lot of loggers,
> DX cluster clients, satellites and moon trackers, and supports multi-
> user remote operation over the Internet. The user interface offers
> quite a selection of methods for pointing and display, as well.

It looks very cool. What is 15 Euros in $US at the moment?

139. Re: Software for antena rotators control

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-22 15:43:35 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ihetvbqvl1@news.eternal-september.org>
Source record: 5939

```
On 1/22/2011 7:57 AM, Bill wrote:
> On Jan 22, 11:22 am, Codrut<codrut.b...@gmail.com> wrote:
>> PstRotator is a program for antenna rotators control
-http://www.qsl.net/yo3dmu/index_Page346.htm
>> It works with a wide variety of rotators, supports a lot of loggers,
>> DX cluster clients, satellites and moon trackers, and supports multi-
>> user remote operation over the Internet. The user interface offers
>> quite a selection of methods for pointing and display, as well.
>
> It looks very cool. What is 15 Euros in $US at the moment?

$20.40
```

140. Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-23 17:10:32 UTC
From: amdx <amdx@knology.net>
Message-ID: <7e566$4d3c60cc$18ec6dd7$6748@KNOLOGY.NET>
Source record: 5941

I put up a long wire antenna, it is an inverted C.
The antenna is resonant at 3.55 Mhz.
I want to characterize it an the AM broadcast band.
I have made a measurement at 500 Khz and I had to install a parallel
capacitor
to get my variable inductor to bring phase to zero.
I don't know how to do the math to find the impedance of the antenna
with the L and C in the circuit.
Can someone look at my drawing and give me the math so I can figure out
the impedance. Then I can get the numbers at other frequencies for the band
and calculate those impedances.
See drawing here. I want to calculate the Unknown Impedance.
I need the R and the C of the antenna.
http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg

Thank you, Mikek

141. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-23 23:05:11 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ihic7c$6k2$1@news.eternal-september.org>
Source record: 5942

On 1/23/2011 11:10 AM, amdx wrote:
> I put up a long wire antenna, it is an inverted C.
> The antenna is resonant at 3.55 Mhz.
> I want to characterize it an the AM broadcast band.
> I have made a measurement at 500 Khz and I had to install a parallel
> capacitor
> to get my variable inductor to bring phase to zero.
> I don't know how to do the math to find the impedance of the antenna
> with the L and C in the circuit.
> Can someone look at my drawing and give me the math so I can figure out
> the impedance. Then I can get the numbers at other frequencies for the band
> and calculate those impedances.
> See drawing here. I want to calculate the Unknown Impedance.
> I need the R and the C of the antenna.
> http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg
>
> Thank you, Mikek
>

I cheated. I used a Smith chart.

It is 170 - j530.

Cheers,
John

142. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-23 23:10:50 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <c56018a1-3db1-4d22-ac2f-14a9a25d3fd2@c39g2000yqi.googlegroups.com>
Source record: 5943

On Jan 23, 11:10 am, "amdx" <a...@knology.net> wrote:
> I put up a long wire antenna, it is an inverted C.
> The antenna is resonant at 3.55 Mhz.
> I want to characterize it an the AM broadcast band.
> I have made a measurement at 500 Khz and I had to install a parallel
> capacitor
> to get my variable inductor to bring phase to zero.
> I don't know how to do the math to find the impedance of the antenna
> with the L and C in the circuit.
> Can someone look at my drawing and give me the math so I can figure out
> the impedance. Then I can get the numbers at other frequencies for the band
> and calculate those impedances.
> See drawing here. I want to calculate the Unknown Impedance.
> I need the R and the C of the
antenna.http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg
>
>   Thank you, Mikek

The Smith Chart says about 178+j521.

Gary N4AST

143. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-23 23:18:58 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ihid19$9jk$1@news.eternal-september.org>
Source record: 5944

On 1/23/2011 11:10 AM, amdx wrote:
> I put up a long wire antenna, it is an inverted C.
> The antenna is resonant at 3.55 Mhz.
> I want to characterize it an the AM broadcast band.
> I have made a measurement at 500 Khz and I had to install a parallel
> capacitor
> to get my variable inductor to bring phase to zero.
> I don't know how to do the math to find the impedance of the antenna
> with the L and C in the circuit.
> Can someone look at my drawing and give me the math so I can figure out
> the impedance. Then I can get the numbers at other frequencies for the band
> and calculate those impedances.
> See drawing here. I want to calculate the Unknown Impedance.
> I need the R and the C of the antenna.
> http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg
>
> Thank you, Mikek

Work backwards. You have a 55 ohm resistor in series with a 310 ohm reactance. Get the equivalent parallel combination of that (the complex reciprocal). Take the reciprocal of the capacitor (just invert the Xc and change the sign). Add the two complex numbers. Take the reciprocal of the answer. This is the impedance the antenna sees looking into the network. The antenna is the complex conjugate of that (just swap the sign of the imaginary part).

Does this help?

John

144. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 00:54:13 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <te-dnRXRafUkUKHQnZ2dnUVZ_gmdnZ2d@bright.net>
Source record: 5945

Dear Mikek (no call sign):

Assuming that the inductor is 3 +j310 because it must have some loss and calling the capacitor -j717, my trusty calculator estimates the antenna looks like 159 -j526. The real part seems high - probably due to ground losses.

However, the idea that even such a simple an antenna can be modeled as an R and C over the AM broadcast frequency range seems unlikely.

An instrument such as the AIM4170C would provide Z with greater confidence and do so at each frequency of interest. However, in the broadcast band it is not clear that such a set of impedances can be used for something useful. What is the actual goal?

Regards, Mac

"amdx" wrote in message news:7e566$4d3c60cc$18ec6dd7$6748@KNOLOGY.NET...

I put up a long wire antenna, it is an inverted C.
The antenna is resonant at 3.55 Mhz.
I want to characterize it an the AM broadcast band.
I have made a measurement at 500 Khz and I had to install a parallel capacitor
to get my variable inductor to bring phase to zero.
I don't know how to do the math to find the impedance of the antenna with the L and C in the circuit.
Can someone look at my drawing and give me the math so I can figure out the impedance. Then I can get the numbers at other frequencies for the band and calculate those impedances.
See drawing here. I want to calculate the Unknown Impedance.
I need the R and the C of the antenna.
http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg

Thank you, Mikek

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

145. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 01:58:30 UTC
From: amdx <amdx@knology.net>
Message-ID: <18613$4d3cdc8a$18ec6dd7$18296@KNOLOGY.NET>
Source record: 5946

"John - KD5YI" <sophi.2@invalid.org> wrote in message
news:ihid19$9jk$1@news.eternal-september.org...
> On 1/23/2011 11:10 AM, amdx wrote:
>> I put up a long wire antenna, it is an inverted C.
>> The antenna is resonant at 3.55 Mhz.
>> I want to characterize it an the AM broadcast band.
>> I have made a measurement at 500 Khz and I had to install a parallel
>> capacitor
>> to get my variable inductor to bring phase to zero.
>> I don't know how to do the math to find the impedance of the antenna
>> with the L and C in the circuit.
>> Can someone look at my drawing and give me the math so I can figure out
>> the impedance. Then I can get the numbers at other frequencies for the
>> band
>> and calculate those impedances.
>> See drawing here. I want to calculate the Unknown Impedance.
>> I need the R and the C of the antenna.
>> http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg
>>
>> Thank you, Mikek
>
> Work backwards. You have a 55 ohm resistor in series with a 310 ohm
> reactance. Get the equivalent parallel combination of that (the complex
> reciprocal). Take the reciprocal of the capacitor (just invert the Xc and
> change the sign). Add the two complex numbers. Take the reciprocal of the
> answer. This is the impedance the antenna sees looking into the network.
> The antenna is the complex conjugate of that (just swap the sign of the
> imaginary part).
>
> Does this help?
>
> John

I don't know, I not there yet.

55 + i310
complex reciprocal
55 - i310 / 55^2 + 310^2
reduce
55 - i310 / 3025 + 96100
reduce further
55 - i310 / 99125
Take the reciprocal of the capacitor (just invert the Xc and change the
sign).
Xc = -i717 so 1/i717 ???

Add the two complex numbers.
(55 - i310 / 99125) + (1/i717)
Any mistakes yet?
Going further doesn't get me the answer you have.
Mikek

146. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 02:24:06 UTC
From: amdx <amdx@knology.net>
Message-ID: <b1fe4$4d3ce289$18ec6dd7$19631@KNOLOGY.NET>
Source record: 5947

"J. C. Mc Laughlin" <jcm@power-net.net> wrote in message
news:te-dnRXRafUkUKHQnZ2dnUVZ_gmdnZ2d@bright.net...
> Dear Mikek (no call sign):
>
> Assuming that the inductor is 3 +j310 because it must have some loss and
> calling the capacitor -j717, my trusty calculator estimates the antenna
> looks like 159 -j526. The real part seems high - probably due to ground
> losses.

From what I have read it seems very high, could I have 130 ohms of ground
loss?
I don't think so.

I'll be looking into the ground, I think it is just a 6 foot rod, I put it
in years ago.
I'll add FWIW, I connected the AC ground from a receptacle and it made zero
change.

> However, the idea that even such a simple an antenna can be modeled as an
> R and C over the AM broadcast frequency range seems unlikely.

Ya, that's not the plan, I'll check it every 100 khz and make a graph, with
R and C.

> An instrument such as the AIM4170C would provide Z with greater confidence
> and do so at each frequency of interest. However, in the broadcast band
> it is not clear that such a set of impedances can be used for something
> useful. What is the actual goal?

I put the antenna up for multiple use, but to start, I want to use it with a
crystal radio,
the measurements may help me figure out the series cap (range) needed to
make an
R match to the tank circuit over the band.
And it's a project that forces me learn some math.
Thanks, Mikek

> Regards, Mac

> "amdx" wrote in message news:7e566$4d3c60cc$18ec6dd7$6748@KNOLOGY.NET...
>
> I put up a long wire antenna, it is an inverted C.
> The antenna is resonant at 3.55 Mhz.
> I want to characterize it an the AM broadcast band.
> I have made a measurement at 500 Khz and I had to install a parallel
> capacitor
> to get my variable inductor to bring phase to zero.

> I don't know how to do the math to find the impedance of the antenna
> with the L and C in the circuit.
> Can someone look at my drawing and give me the math so I can figure out
> the impedance. Then I can get the numbers at other frequencies for the
> band
> and calculate those impedances.
> See drawing here. I want to calculate the Unknown Impedance.
> I need the R and the C of the antenna.
> http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg
>
> Thank you, Mikek
>
>
> J. C. Mc Laughlin
> Michigan U.S.A.
> Home: JCM@Power-Net.Net

147. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 03:47:06 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ihiso2srh1@news.eternal-september.org>
Source record: 5948

On 1/23/2011 7:58 PM, amdx wrote:
> "John - KD5YI"<sophi.2@invalid.org> wrote in message
> news:ihid19$9jk$1@news.eternal-september.org...
>> On 1/23/2011 11:10 AM, amdx wrote:
>>> I put up a long wire antenna, it is an inverted C.
>>> The antenna is resonant at 3.55 Mhz.
>>> I want to characterize it an the AM broadcast band.
>>> I have made a measurement at 500 Khz and I had to install a parallel
>>> capacitor
>>> to get my variable inductor to bring phase to zero.
>>> I don't know how to do the math to find the impedance of the antenna
>>> with the L and C in the circuit.
>>> Can someone look at my drawing and give me the math so I can figure out
>>> the impedance. Then I can get the numbers at other frequencies for the
>>> band
>>> and calculate those impedances.
>>> See drawing here. I want to calculate the Unknown Impedance.
>>> I need the R and the C of the antenna.
>>> http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg
>>>
>>> Thank you, Mikek
>>
>> Work backwards. You have a 55 ohm resistor in series with a 310 ohm
>> reactance. Get the equivalent parallel combination of that (the complex
>> reciprocal). Take the reciprocal of the capacitor (just invert the Xc and
>> change the sign). Add the two complex numbers. Take the reciprocal of the
>> answer. This is the impedance the antenna sees looking into the network.
>> The antenna is the complex conjugate of that (just swap the sign of the
>> imaginary part).
>>
>> Does this help?
>>
>> John
>
> I don't know, I not there yet.
>
> 55 + i310
> complex reciprocal
> 55 - i310 / 55^2 + 310^2
> reduce
> 55 - i310 / 3025 + 96100
> reduce further
> 55 - i310 / 99125
> Take the reciprocal of the capacitor (just invert the Xc and change the

> sign).
> Xc = -i717 so 1/i717 ???

??? = +.001395

> Add the two complex numbers.
> (55 - i310 / 99125) + (1/i717)
> Any mistakes yet?

Well, no, but you should simplify here.

> Going further doesn't get me the answer you have.

I can't tell why because you didn't show your work.

> Mikek
>
>

Convert the series impedance 55 + j310 to its parallel equivalent admittance (1/(55+j310) as follows:

1/(55+j310) = (55-j310)/(55+j310)(55-j310)

In other words, multiply the numerator AND denominator of 1/(55+j310) by the conjugate (55-j310) of the denominator.

This gives (55-j310)/(3025+96100) or (55-j310)/99125 which is an admittance of 554.85e-6-j3.127e-3.

The capacitor's parallel equivalent admittance is 1/(0-j717). So, when numerator and denominator are multiplied by the conjugate we get

0+j717)/(0+514.089e3) or j717/514.089e3 which is 0+1.395e-3.

Now the sum of (554.85e-6 - j3.127) and (0 + 1.945e-6) is

554.855e-6 - j1.733e-3

This the parallel equivalent (the admittance) of your components and what the antenna is seeing.

Following in the steps of my second and third sentences above, the equivalent series impedance of your network looking back toward the resistor is the reciprocal of that, or

167.63 + j523.5

This is the impedance the antenna sees. The antenna's equivalent impedance is the conjugate of that. That is, the antenna looks like an impedance of 167.63 - j523.5 according to your data.

A calculator that handles complex numbers is invaluable. I have one on my computer's desktop. I also have an electronic Smith chart which is usually faster. If you need a link, let me know.

This whole thing may look a bit complicated to you if you are not familiar with complex numbers. Look up how to do X, /, +, - using complex numbers and get familiar. It will help.

Cheers,
John

148. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 05:49:29 UTC
From: art clemons <n8blk@aolSPAM.com>
Message-ID: <ihj3tc$o53$1@news.albasani.net>
Source record: 5949

bpuharic wrote:

> thanks, joe! that's a possibility and it would get the whip above roof
> level.

One other possibility is one of the four magnet magmount setups. Some even come with coax. I've even seen such mounts used for screwdrivers if you still have your prior one. Before anyone points out they have to be grounded properly, the mounting holes for the roof mount offer access to at least some grounding with the proper short bolt. I suspect such a scheme might have the grounding strap()/wire(s) too long at 10 meters, but for 17 meters through 75, probably should be adequate.

149. January 2011, Updated list of solutions manuals & test banks!!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 08:10:05 UTC
From: "Student.Plus(at)Hotmail(dot)com" <spwork.ads003@gmail.com>
Message-ID: <307ddd08-be2e-4112-8bfd-d8a4e309aca3@v17g2000vbo.googlegroups.com>
Source record: 5950

Hello,

We have updated our list with the following titles.

You can contact us directly at Student.Plus(at)Hotmail(dot)com
Or visit our website for more information (student-plus.net)
http://student-plus.net

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Accounting Information Systems, 9th Edition 2012,
Gelinas.Dull.Wheeler, Solutions Manual

Accounting Information Systems, 9th Edition 2012,
Gelinas.Dull.Wheeler, Test Bank

Accounting, 24th Edition, Warren.Reeve.Duchac, Solutions Manual

Accounting, 24th Edition, Warren.Reeve.Duchac, Test Bank

Accounting; Text and Cases, 13th Edition 2011,
Anthony.Hawkins.Merchant, Instructor Manual & Solutions Manual

Accounting; Tools for Business Decision Makers, 4th Edition,
Kimmel.Weygandt.Kieso, Instructor Manual & Solutions Manual

Accounting; Tools for Business Decision Makers, 4th Edition,
Kimmel.Weygandt.Kieso, Test Bank

Adobe Dreamweaver CS5 Illustrated, 1st Edition 2011, Sherry Bishop,
Instructor Manual & Solutions Manual

Adobe Dreamweaver CS5 Illustrated, 1st Edition 2011, Sherry Bishop,
Test Bank

Adobe Dreamweaver CS5 Revealed, 1st Edition 2011, Sherry Bishop,
Instructor Manual & Solutions Manual

Adobe Dreamweaver CS5 Revealed, 1st Edition 2011, Sherry Bishop, Test
Bank

Adobe Flash CS5 Revealed, 1st Edition 2011, Jim Shuman, Instructor
Manual & Solutions Manual

Adobe Flash CS5 Revealed, 1st Edition 2011, Jim Shuman, Test Bank

Adobe Flash Professional CS5 Illustrated_Introductory, 1st Edition
2011, Waxer, Instructor Manual & Solutions Manual

Adobe Flash Professional CS5 Illustrated_Introductory, 1st Edition 2011, Waxer, Test Bank

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Adober Photoshopr CS5 Revealed, 1st Edition 2011, Elizabeth Eisner Reding, Test Bank

America Past and Present_Combined Volume, 9th Edition, Divine.Breen.Fredrickson.Williams.Gross.Brands, Instructor Manual

America Past and Present_Combined Volume, 9th Edition, Divine.Breen.Fredrickson.Williams.Gross.Brands, Test Bank

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America Past and Present_Volume 1 (to 1877), 8th Edition, Divine.Breen.Fredrickson.Williams.Gross.Brands, Instructor Manual, Test Bank

Archetypes of Wisdom; An Introduction to Philosophy, 7th Edition, Soccio, Instructor Manual

Archetypes of Wisdom; An Introduction to Philosophy, 7th Edition, Soccio, Test Bank

Auditing and Assurance Service; Understanding the Integrated Audit, 1st Edition, Hooks, Instructor Manual & Solutions Manual

Auditing and Assurance Service; Understanding the Integrated Audit, 1st Edition, Hooks, Test Bank

Basic College Mathematics, 2nd Edition, Miller.O'Neill.Hyde, Instructor Manual & Solutions Manual

Basic College Mathematics, 2nd Edition, Miller.O'Neill.Hyde, Test Bank

Basic Marketing; A Marketing Strategy Planning Approach, 18th Edition 2011, Perreault.Cannon.McCarthy, Instructor Manual & Solutions Manual

Basic Marketing; A Marketing Strategy Planning Approach, 18th Edition 2011, Perreault.Cannon.McCarthy, Test Bank

Basic Statistics; Tales of Distributions, 10th Edition 2011, Chris Spatz, Test Bank

Becoming a Master Manager; A Competing Values Approach, 5th Edition, Quinn.Faerman.Thompson.McGrath.Clair, Instructor Manual

Becoming a Master Manager; A Competing Values Approach, 5th Edition, Quinn.Faerman.Thompson.McGrath.Clair, Test Bank

Beginning Algebra, 3rd Edition, Miller.O'Neill.Hyde, Instructor Manual & Solutions Manual

Beginning Algebra, 3rd Edition, Miller.O'Neill.Hyde, Test Bank

Beginning and Intermediate Algebra, 3rd Edition 2011, Miller.O'Neill.Hyde, Instructor Manual & Solutions Manual

Beginning and Intermediate Algebra, 3rd Edition 2011, Miller.O'Neill.Hyde, Test Bank

Behavior Modification; What It Is and How To Do It, 9th Edition, Martin.Pear, Instructor Manual

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Biochemistry, 4th Edition, Voet.Voet, Instructor Manual

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Biopsychology, 8th Edition 2011, Pinel, Instructor Manual

Biopsychology, 8th Edition 2011, Pinel, Test Bank

Business Communication; Process and Product, 7th Edition, Guffey.Loewy, Instructor Manual & Solutions Manual

Business Communication; Process and Product, 7th Edition, Guffey.Loewy, Test Bank

Business Driven Information Systems, 2nd Edition, Baltzan.Phillips, Instructor Manual & Solutions Manual

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Business Driven Technology, 4th Edition, Baltzan.Phillips, Instructor Manual

Business Driven Technology, 4th Edition, Baltzan.Phillips, Test Bank

Business Ethics; Decision Making for Personal Integrity & Social Responsibility, 2nd Edition 2011, Hartman.DesJardins, Instructor Manual

Business Ethics; Decision Making for Personal Integrity & Social Responsibility, 2nd Edition 2011, Hartman.DesJardins, Test Bank

Business Law; Text and Cases; Legal_Ethical_Global_and Corporate Environment, 12th Edition, Clarkson.Miller.Cross, Instructor Manual & Solutions Manual

Business Law; Text and Cases; Legal_Ethical_Global_and Corporate Environment, 12th Edition, Clarkson.Miller.Cross, Test Bank

Business Statistics; Contemporary Decision Making, 6th Edition, Black, Instructor Manual

Business, 11th Edition, Pride.Hughes.Kapoor, Test Bank

Calculus for Business_Economics_and the Social and Life Sciences, 10th Edition, Hoffmann.Bradley, Instructor Manual & Solutions Manual

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Calculus Late Transcendentals Combined, 9th Edition, Anton.Bivens.Davis, Solutions Manual

Calculus Late Transcendentals Combined, 9th Edition, Anton.Bivens.Davis, Test Bank

Calculus of a Single Variable, 8th Edition, Larson.Hostetler.Edwards, Test Bank

Campbell Biology with MasteringBiologyr, 9th Edition, Reece.Urry.Cain.Wasserman.Minorsky.Jackson, Instructor Manual

Campbell Biology with MasteringBiologyr, 9th Edition, Reece.Urry.Cain.Wasserman.Minorsky.Jackson, Test Bank

Cell Biology, 6th Edition, Karp, Instructor Manual

Cell Biology, 6th Edition, Karp, Test Bank

Cengage Advantage Books; Business Law, 8th Edition 2011, Goldman.Sigismond, Instructor Manual

Cengage Advantage Books; Business Law, 8th Edition 2011, Goldman.Sigismond, Test Bank

Chemistry, 1st Edition, Julia Burdge, Instructor Manual & Solutions Manual

Chemistry, 1st Edition, Julia Burdge, Test Bank

Chemistry, 2nd Edition 2011, Julia Burdge, Instructor Manual & Solutions Manual

Chemistry, 2nd Edition 2011, Julia Burdge, Test Bank

Chemistry; Structure and Dynamics, 5th Edition, Spencer.Bodner.Rickard, Solutions Manual

College Algebra Essentials, 2nd Edition, John Coburn, Instructor Manual & Solutions Manual

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College Algebra, 1st Edition, Kirk Trigsted, Test Bank

College Algebra, 2nd Edition, John Coburn, Instructor Manual & Solutions Manual

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Competency-Based Management, 11th Edition, Slocum.Jackson.Hellriegel, Instructor Manual

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Computer Graphics with Open GL, 4th Edition, Hearn.Baker.Carithers, Solutions Manual

Contemporary World Regional; Geography Global Connections_Local Voices, 3rd Edition, Bradshaw.White.Dymond.Chacko, Test Bank

Core Concepts of Government and Not-For-Profit Accounting, 2nd Edition, Granof.Wardlow, Solutions Manual

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Corporate Finance; Core Principles and Applications, 3rd Edition 2011, Ross.Westerfield.Jaffe.Jordan, Instructor Manual & Solutions Manual

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Criminal Behavior; A Psychological Approach, 9th Edition, Bartol.Bartol, Instructor Manual

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Cultural ANTHRO, 1st Edition 2012, Robbins, Instructor Manual

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Data Structures and Algorithms in Java, 5th Edition, Goodrich.Tamassia, Solutions Manual

Data Structures; Abstraction and Design Using Java, 2nd Edition, Koffman.Wolfgang, Solutions Manual

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Development Through the Lifespan, 5th Edition, Berk, Instructor Manual

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Deviant Behavior, 10th Edition, Alex Thio, Test Bank

Digital Design with RTL Design_Verilog and VHDL , 2nd Edition, Vahid, Solutions Manual

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Exploring Microsoft Office 2010 Plus, 1st Edition 2011, Grauer.Poatsy.Poatsy.Hulett.Krebs.Mast.Mulbery.Hogan, Test Bank

Exploring Microsoft Office 2010 Volume 2, 1st Edition 2011, Grauer.Poatsy.Poatsy.Hulett.Krebs.Mast.Mulbery.Hogan, Instructor Manual & Solutions Manual

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General Chemistry, 6th Edition, Chang.Overby, Test Bank

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Genetics, 3rd Edition, Brooker, Test Bank

Group Dynamics, 5th Edition, Forsyth, Instructor Manual

Group Dynamics, 5th Edition, Forsyth, Test Bank

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How Things Work The Physics of Everyday Life, 4th Edition, Bloomfield, Solutions Manual

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Human Resource Management, 10th Edition 2011, Byars.Rue, Test Bank

Human Resource Management, 10th Edition, DeCenzo, Instructor Manual

Human Resource Management, 10th Edition, DeCenzo, Test Bank

Human Resource Management, 2nd Edition, Stewart.Brown, Instructor Manual

Human Resource Management, 2nd Edition, Stewart.Brown, Test Bank

Income Tax Fundamentals 2011, 29th Edition 2011, Whittenburg.Altus-Buller, Solutions Manual

Income Tax Fundamentals 2011, 29th Edition 2011, Whittenburg.Altus-Buller, Test Bank

Intermediate Algebra, 3rd Edition, Miller.O'Neill.Hyde, Instructor Manual & Solutions Manual

Intermediate Algebra, 3rd Edition, Miller.O'Neill.Hyde, Test Bank

Intermediate Algebra; A Real World Approach, 3rd Edition, Bello.Hopf, Solutions Manual

Intermediate Algebra; A Real World Approach, 3rd Edition, Bello.Hopf, Test Bank

International Economics, 13th Edition 2011, Robert Carbaugh, Instructor Manual

International Economics, 13th Edition 2011, Robert Carbaugh, Test Bank

Introduction to Accounting; An Integrated Approach, 6th Edition 2011, Ainsworth.Deines, Instructor Manual & Solutions Manual

Introduction to Accounting; An Integrated Approach, 6th Edition 2011, Ainsworth.Deines, Test Bank

Introduction to Chemistry, 13th edition, Hein.Arena, Solutions Manual

Introduction to Chemistry, 13th edition, Hein.Arena, Test Bank

Introduction to Criminal Justice, 12th Edition, Siegel, Instructor Manual

Introduction to Criminal Justice, 12th Edition, Siegel, Test Bank

Introduction to Criminal Justice, 13th Edition, Siegel.Worrall, Instructor Manual

Introduction to Criminal Justice, 13th Edition, Siegel.Worrall, Test Bank

Introduction to Finance; Markets_Investments_and Financial Management, 14th Edition, Melicher.Norton, Instructor Manual

Introduction to Finance; Markets_Investments_and Financial Management, 14th Edition, Melicher.Norton, Test Bank

Introduction to Geotechnical Engineering, 2nd Edition, Holtz.Kovacs.Sheahan, Solutions Manual

Introduction to Management Science; A Modeling and Case Studies Approach with Spreadsheets, 4th Edition, Hillier.Hillier, Instructor Manual & Solutions Manual

Introduction to Mechatronics and Measurement Systems, 3rd Edition, Alciatore.Histand, Solutions Manual

Introduction to Organic Chemistry, 4th Edition, Brown.Poon, Solutions Manual

Introduction to Organic Chemistry, 4th Edition, Brown.Poon, Test Bank

Introduction to Physics, 8th Edition, Cutnell.Johnson, Solutions Manual

Introduction to Physics, 8th Edition, Cutnell.Johnson, Test Bank

Introduction to Thermodynamics and Heat Transfer, 2nd Edition, Cengel. €engel, Solutions Manual

Introduction to Wireless and Mobile Systems, 3rd Edition 2011, Agrawal.Qing-An Zeng, Solutions Manual

Introductory Algebra; A Real World Approach, 3rd Edition, Ignacio Bello, Solutions Manual

Introductory Algebra; A Real World Approach, 3rd Edition, Ignacio Bello, Test Bank

Introductory Statistics, 7th Edition, Mann, Test Bank

Investments; Principles and Concepts, 11th Edition, Jones, Instructor Manual & Solutions Manual

Investments; Principles and Concepts, 11th Edition, Jones, Test Bank

Java Foundations; Introduction to Program Design and Data Structures, 2nd Edition, Lewis.DePasquale.Chase, Solutions Manual

Java Foundations; Introduction to Program Design and Data Structures, 2nd Edition, Lewis.DePasquale.Chase, Test Bank

Learning the Art of Helping; Building Blocks and Techniques, 4th Edition, Young, Instructor Manual

Learning the Art of Helping; Building Blocks and Techniques, 4th Edition, Young, Test Bank

Macroeconomics, 10th Edition 2011, Arnold, Instructor Manual

Macroeconomics, 10th Edition 2011, Arnold, Test Bank

Management Information Systems; Managing the Digital Firm, 5th Edition, Laudon, Instructor Manual

Management Information Systems; Managing the Digital Firm, 5th Edition, Laudon, Test Bank

Management, 11th Edition, Schermerhorn, Instructor Manual

Management, 11th Edition, Schermerhorn, Test Bank

Managerial Accounting, 1st Edition, Oliver.Horngren, Instructor Manual & Solutions Manual

Managerial Accounting, 1st Edition, Oliver.Horngren, Test Bank

Managerial Accounting; Creating Value in a Dynamic Business Environment, 9th Edition 2011, Hilton, Instructor Manual & Solutions Manual

Managerial Accounting; Creating Value in a Dynamic Business Environment, 9th Edition 2011, Hilton, Test Bank

Managerial Economics, 10th Edition 2011, Thomas.Maurice, Instructor Manual

Managerial Economics, 10th Edition 2011, Thomas.Maurice, Test Bank

Managerial Economics; Analysis_Problems_Cases, 8th Edition, Truett, Instructor Manual

Managerial Economics; Analysis_Problems_Cases, 8th Edition, Truett, Test Bank

Managerial Economics; Foundations of Business Analysis and Strategy, 10th Edition 2011, Thomas.Maurice, Instructor Manual

Managerial Economics; Foundations of Business Analysis and Strategy, 10th Edition 2011, Thomas.Maurice, Test Bank

Manufacturing Planning and Control for Supply Chain Management, 6th Edition, Jacobs.Berry.Whybark.Vollmann, Solutions Manual

Manufacturing Processes for Engineering Materials, 5th Edition, Kalpakjian.Schmid, Solutions Manual

Marketing Management; Knowledge and Skills, 10th Edition 2011, Peter.Donnelly, Instructor Manual & Solutions Manual

Marketing Management; Knowledge and Skills, 10th Edition 2011, Peter.Donnelly, Test Bank

Math in Our World, 2nd Edition, Sobecki.Bluman.Matthews, Solutions Manual

Math in Our World, 2nd Edition, Sobecki.Bluman.Matthews, Test Bank

MCTS Guide to Microsoft Windows 7 (Exam # 70-680), 1st Edition 2011, Wright, Leon Plesniarski, Instructor Manual & Solutions Manual

MCTS Guide to Microsoft Windows 7 (Exam # 70-680), 1st Edition 2011, Wright, Leon Plesniarski, Test Bank

Mechanical Vibrations, 5th Edition, Rao, Solutions Manual

Mechanics of Materials; An Integrated Learning System, 2nd Edition, Philpot, Solutions Manual

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Microeconomics, 10th Edition 2011, Arnold, Test Bank

Microsoft Office 2007, 1st Edition, O'Leary.O'Leary, Instructor Manual & Solutions Manual

Microsoft Office 2007, 1st Edition, O'Leary.O'Leary, Test Bank

Microsoft Official Academic Course; 70-642 Windows Server 2008 Network Infrastructure Configuration with Lab Manual, 1st Edition, Microsoft Official Academic Course, Instructor Manual & Solutions Manual

Microsoft Official Academic Course; 70-642 Windows Server 2008 Network Infrastructure Configuration with Lab Manual, 1st Edition, Microsoft Official Academic Course, Test Bank

Modern Quantum Mechanics, 2nd Edition, Sakurai.Napolitano, Solutions Manual

Money_Banking_and Financial Markets, 3rd Edition 2011, Cecchetti.Schoenholtz, Instructor Manual

Money_Banking_and Financial Markets, 3rd Edition 2011, Cecchetti.Schoenholtz, Test Bank

Multinational Finance, 4th Edition, Butler, Instructor Manual & Solutions Manual

Multinational Finance, 4th Edition, Butler, Test Bank

New Perspectives on Microsoft Office 2007 Second Course, 2nd Edition, Shaffer.Carey.Ageloff.Parsons.Oja.Zimmerman.Zimmerman.Adamski, Instructor Manual & Solutions Manual

New Perspectives on Microsoft Office 2007 Second Course, 2nd Edition, Shaffer.Carey.Ageloff.Parsons.Oja.Zimmerman.Zimmerman.Adamski, Test Bank

New Products Management, 10th Edition 2011, Crawford.Benedetto, Instructor Manual

New Products Management, 10th Edition 2011, Crawford.Benedetto, Test Bank

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Object-Oriented Modeling and Design with UML, 2nd Edition, Blaha.Rumbaugh, Solutions Manual

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Organic Chemistry, 10th Edition, Solomons.Fryhle, Test Bank

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Organizational Behavior, 10th Edition 2012, Griffin.Moorhead, Instructor Manual

Organizational Behavior, 10th Edition 2012, Griffin.Moorhead, Test Bank

Organizational Behavior, 3rd Edition, Hitt, Instructor Manual

Organizational Behavior, 3rd Edition, Hitt, Test Bank

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Principles of Macroeconomics, 8th Edition, Melvin.Boyes, Test Bank

Principles of Marketing_Global Edition, 13th Edition, Kotler.Armstrong, Instructor Manual

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Public Administration in America, 10th Edition, Milakovich.Gordon, Test Bank

Public Finance, 10th Edition 2011, Hyman, Instructor Manual

Public Finance, 10th Edition 2011, Hyman, Test Bank

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Real Estate Finance & Investments, 14th Edition 2011, Brueggeman.Fisher, Instructor Manual & Solutions Manual

Real Estate Finance & Investments, 14th Edition 2011, Brueggeman.Fisher, Test Bank

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Retirement Plans, 10th Edition, Allen.Melone.Rosenbloom.Mahoney, Instructor Manual

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Ruby Programming, 1st Edition 2011, Jerry Lee Ford, Test Bank

Sales Management; Concepts and Cases, 10th Edition, Cron, Instructor Manual & Solutions Manual

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Service Management; Operations_Strategy_Information Technology, 7th Edition, Fitzsimmons, Instructor Manual

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Spreadsheet Modeling & Decision Analysis; A Practical Introduction to Management Science, 6th Edition 2011, Cliff Ragsdale, Test Bank

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Starting Out with Alice; A Visual Introduction to Programming, 2nd Edition, Tony Gaddis, Test Bank

Statistics; From Data to Decision, 2nd Edition, Watkins.Scheaffer.Cobb, Instructor Manual & Solutions Manual

Statistics; From Data to Decision, 2nd Edition, Watkins.Scheaffer.Cobb, Test Bank

Statistics; Principles and Methods, 6th Edition, Johnson, Test Bank

Strategic Financial Management; Application of Corporate Finance, 1st Edition 2008, Weaver.Weston, Test Bank

System Dynamics, 2nd Edition, William J Palm, Solutions Manual

Technology In Action_Complete Version, 7th Edition, Evans.Martin.Poatsy.Poatsy, Instructor Manual & Solutions Manual

Technology In Action_Complete Version, 7th Edition, Evans.Martin.Poatsy.Poatsy, Test Bank

The Cultural Landscape; An Introduction to Human Geography, 10th Edition, Rubenstein, Instructor Manual

The Cultural Landscape; An Introduction to Human Geography, 10th Edition, Rubenstein, Test Bank

The Ethics of Management; A Multidisciplinary Approach, 7th Edition 2011, LaRue Tone Hosmer, Instructor Manual

The Psychology of Women, 6th Edition, Matlin, Test Bank

The Web Collection Revealed Standard Edition; Adobe Dreamweaver CS5_Flash CS5 and Fireworks CS5, 1st Edition 2011, Bishop.Shuman.Waxer, Instructor Manual & Solutions Manual

The Web Collection Revealed Standard Edition; Adobe Dreamweaver CS5_Flash CS5 and Fireworks CS5, 1st Edition 2011, Bishop.Shuman.Waxer, Test Bank

Thermodynamics; An Engineering Approach, 7th Edition, €engel.Boles, Solutions Manual

Thermodynamics; An Engineering Approach, 7th Edition, €engel.Boles, Test Bank

Trigonometry, 2nd Edition 2011, Coburn.Herdlick, Solutions Manual

Trigonometry, 2nd Edition 2011, Coburn.Herdlick, Test Bank

Trusted Criminals; White Collar Crime In Contemporary Society, 4th Edition, Friedrichs, Instructor Manual

Trusted Criminals; White Collar Crime In Contemporary Society, 4th Edition, Friedrichs, Test Bank

Understanding Strategic Management, 1st Edition, Henry, Instructor Manual

Understanding Strategic Management, 1st Edition, Henry, Test Bank

Unified Design of Steel Structures, 1st Edition, Geschwindner, Solutions Manual

Unlocking Medical Terminology, 2nd Edition, Wingerd, Instructor Manual

Unlocking Medical Terminology, 2nd Edition, Wingerd, Test Bank

Using Financial Accounting Information; The Alternative to Debits & Credits, 6th Edition, Porter.Norton, Instructor Manual & Solutions Manual

Using Financial Accounting Information; The Alternative to Debits & Credits, 6th Edition, Porter.Norton, Test Bank

Water Resources Engineering, 2nd Edition, Mays, Solutions Manual

World of Art, 6th Edition, Sayre, Instructor Manual

World of Art, 6th Edition, Sayre, Test Bank

Zumberge's Laboratory Manual for Physical Geology , 15th Edition 2011, Rutford.Carter, Instructor Manual

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Contact Us At :
Student.Plus(at)Hotmail(dot)com
www.student-plus.net

150. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 14:37:26 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <EcKdnTAlb6Y0E6DQnZ2dnUVZ_rmdnZ2d@bright.net>
Source record: 5801

Dear Mikek: Thank you for your response. Knowing goals is important.

A great deal could be learned by using an antenna modeling computer program such as EZNEC.

Note that my estimate of the antenna's Z is calculated with one assumption (some loss in the series inductor) and that its calculations equate 55 + j0 to the impedance of the inductor, capacitor and antenna. Some of the calculations I have seen seem to assume that one has applied 55 ohms and then look backwards from the antenna.

Place my estimate of 159 -j526 in parallel with -j717 and then add (the series) 3 + j310. You should fine the result to be
55.053 -j 0.0711 which is close to 55.

Maximizing the sensitivity of a semiconductor diode detector is probably done empirically because of the difficulty of finding an appropriate model for the non-linear detector. Expect that the apparent answer will be amplitude dependent.

Do report you findings. Regards, Mac

"amdx" wrote in message news:b1fe4$4d3ce289$18ec6dd7$19631@KNOLOGY.NET...

"J. C. Mc Laughlin" <jcm@power-net.net> wrote in message
news:te-dnRXRafUkUKHQnZ2dnUVZ_gmdnZ2d@bright.net...
> Dear Mikek (no call sign):
>
> Assuming that the inductor is 3 +j310 because it must have some loss and
> calling the capacitor -j717, my trusty calculator estimates the antenna
> looks like 159 -j526. The real part seems high - probably due to ground
> losses.

From what I have read it seems very high, could I have 130 ohms of ground loss?
I don't think so.

I'll be looking into the ground, I think it is just a 6 foot rod, I put it in years ago.
I'll add FWIW, I connected the AC ground from a receptacle and it made zero change.

> However, the idea that even such a simple an antenna can be modeled as an
> R and C over the AM broadcast frequency range seems unlikely.

Ya, that's not the plan, I'll check it every 100 khz and make a graph, with R and C.

> An instrument such as the AIM4170C would provide Z with greater confidence
> and do so at each frequency of interest. However, in the broadcast band
> it is not clear that such a set of impedances can be used for something
> useful. What is the actual goal?

I put the antenna up for multiple use, but to start, I want to use it with a
crystal radio,
the measurements may help me figure out the series cap (range) needed to
make an
R match to the tank circuit over the band.
And it's a project that forces me learn some math.
Thanks, Mikek

> Regards, Mac

> "amdx" wrote in message news:7e566$4d3c60cc$18ec6dd7$6748@KNOLOGY.NET...
>
> I put up a long wire antenna, it is an inverted C.
> The antenna is resonant at 3.55 Mhz.
> I want to characterize it an the AM broadcast band.
> I have made a measurement at 500 Khz and I had to install a parallel
> capacitor
> to get my variable inductor to bring phase to zero.
> I don't know how to do the math to find the impedance of the antenna
> with the L and C in the circuit.
> Can someone look at my drawing and give me the math so I can figure out
> the impedance. Then I can get the numbers at other frequencies for the
> band
> and calculate those impedances.
> See drawing here. I want to calculate the Unknown Impedance.
> I need the R and the C of the antenna.
> http://i395.photobucket.com/albums/pp37/Qmavam/Antennaat500Khz.jpg
>
> Thank you, Mikek
>

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

151. Re: Math help characterizing Antenna, Please

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 17:42:35 UTC
From: amdx <amdx@knology.net>
Message-ID: <4dbd7$4d3dba05$45013905$19672@KNOLOGY.NET>
Source record: 5802

"J. C. Mc Laughlin" <jcm@power-net.net> wrote in message
news:EcKdnTAlb6Y0E6DQnZ2dnUVZ_rmdnZ2d@bright.net...
> Dear Mikek: Thank you for your response. Knowing goals is important.
>
> A great deal could be learned by using an antenna modeling computer
> program such as EZNEC.
>
> Note that my estimate of the antenna's Z is calculated with one assumption
> (some loss in the series inductor) and that its calculations equate 55 +
> j0 to the impedance of the inductor, capacitor and antenna. Some of the
> calculations I have seen seem to assume that one has applied 55 ohms and
> then look backwards from the antenna.
>
> Place my estimate of 159 -j526 in parallel with -j717 and then add (the
> series) 3 + j310. You should fine the result to be
> 55.053 -j 0.0711 which is close to 55.
>
> Maximizing the sensitivity of a semiconductor diode detector is probably
> done empirically because of the difficulty of finding an appropriate model
> for the non-linear detector. Expect that the apparent answer will be
> amplitude dependent.
>
> Do report you findings. Regards, Mac
>
>
> "J. C. Mc Laughlin" <jcm@power-net.net>

Hi J. C.
If your interested in the diode characterists Ben Tongue has done a lot of
crystal radio work.
http://www.bentongue.com/xtalset/xtalset.html
Articles 6, 7, 8, 9 , 10, 15A, 16, 17A, 27 and 28 are all about detector
diodes and there characteristics.
Thanks, Mikek

152. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 17:46:33 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ihkdtp$11s$1@news.jpl.nasa.gov>
Source record: 5803

art clemons wrote:
> bpuharic wrote:
>
>> thanks, joe! that's a possibility and it would get the whip above roof
>> level.
>
>
> One other possibility is one of the four magnet magmount setups. Some even
> come with coax. I've even seen such mounts used for screwdrivers if you
> still have your prior one. Before anyone points out they have to be
> grounded properly, the mounting holes for the roof mount offer access to at
> least some grounding with the proper short bolt. I suspect such a scheme
> might have the grounding strap()/wire(s) too long at 10 meters, but for 17
> meters through 75, probably should be adequate.

On many cars these days, there is a plastic cover at the end of the roof
rack that covers a bolt that holds the rack onto the car. A ring lug
under the bolt and a black powerpole connector glued into a notch cut in
that plastic cover might give a really nice connection to the metal roof.

153. Re: More on R + jX vs. SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-24 22:11:42 UTC
From: Nordic Breeds WA4VZQ <ABSOLUTELYwa4vzqNO@SPAMlive.com>
Message-ID: <ihktetpg1@news.eternal-september.org>
Source record: 5804

"Edward Knobloch" <alias@nowhere.net> wrote in message
news:XtOdnfg4gP_SUqDQnZ2dnUVZ_gednZ2d@giganews.com...
> Hi, Gang
>
> I recently posted about a DOS program by KQ6RH,
> to convert from RX noise bridge knob settings
> to impedance, in both polar and rectangular form:
> http://www.antenna-magic.com/Rx_brdg.htm
>
> My only "complaint" was that his program didn't also
> output the SWR for a 50 Ohm system.
>
> I realize that I can get the SWR info
> from a Smith chart, but the charts I have found
> for free download are centered on R=1,
> and require quite a bit of squinting to use.
>
> Anyway, I stumbled upon a very handy graph
> of SWR vs. R +jX (for SWR < 3.5:1),
> appearing in RCA Ham Tips for Dec 1956:
> http://bama.edebris.com/manuals/rcahamtips/rca1604/
>
> 73,
> Ed Knobloch

Ed,

The Smith Charts with R=1 in the center are normalized charts. If you have 50 ohm coaxial cable, just multiply the numbers by 50. You may occasionally use 75 ohm cable. While you can buy charts with R=75 in the center, all you have to do with a normalized chart is to multiply the values by 75. I doubt if you can even buy charts specifically for 93 ohm (RG-62) cable, 300 ohm twinlead, or 450 and 440 ohm "window" line.

I always compute the reflection coefficient from a complex load before I calculate the VSWR.

? (Greek capital letter Gamma) = (Zmeas - Zline)/(Zmeas + Zline)

We usually think that we can replace the line impedance with 50 + j0, but as my friend Tom, K7ITM, often points out, so-called 50 ohm cable no longer has a purely resistive characteristic impedance at low frequencies. So we need to calculate the reflection coefficient as a complex number. Once we have this, we need to determine the magnitude of the reflection coefficient.

? (Greek lower case rho) = |?|

= sqrt(Real*Real + Imag*Imag)

Once we know the magnitude of the reflection coefficient, which is always less than or equal to unity, the voltage standing wave ratio is simply

VSWR = (1 + ?)/(1 - ?)

If you have Windoze, all of these calculations are easily done in Excel. You may have to install the Analysis Toolpack to get Excel to handle complex numbers.

I strongly suggest that you continue to use Smith charts. The first large program for my TI-59 calculator nearly forty years ago was an electronic Smith chart. It was handy. but I continued to use Smith charts because they offer graphically significant insight into what happens along the length of a transmission line. Additionally, they help you catch mistakes.

73, Barry WA4VZQ

Postscript: I used rich text format solely because I could use Greek letters. Gamma and rho are almost universally used to represent the complex reflection coefficient and its magnitude respectively in engineering publications.

154. REAL HOT SEX PHOTOS&VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-25 09:39:37 UTC
From: SAMARA <jaidatta9247@gmail.com>
Message-ID: <a8998196-fdf7-4c81-bf91-dca55e04f957@r40g2000prh.googlegroups.com>
Source record: 5805

LATEST KATRINA HOT VIDEOS
http://karomasti9.blogspot.com/2011/01/katrinahot.html
DEEPIKA PADUKONE HOT VIDEOS
http://karomasti9.blogspot.com/2011/01/deepika-padukone.html
HOT ARCHANA STILLS
http://karomasti9.blogspot.com/2011/01/archana.html
DEEKSHA SETH HOT WALLPAPERS
http://karomasti9.blogspot.com/2011/01/deeksha-seth.html
KATRINA KAIF HOT VIDEOS&PHOTOS
http://karomasti9.blogspot.com/2011/01/katrina-kaif.html
SAMEERAREDDY HOT BOOBS
http://karomasti9.blogspot.com/2011/01/sameerareddy.html
HOT SEXY ACTRESS
http://karomasti9.blogspot.com/2011/01/hot.html
latest hot sruthi hassan stills
http://karomasti9.blogspot.com/2011/01/shurthihassan-new-stills.html
UNSEEN HOT SEXY PHOTOS
http://karomasti9.blogspot.com/2011/01/never.html
SAMANTHA HOT SEXY PHOTOS
http://karomasti9.blogspot.com/2011/01/samantha.html
SEXY DIYA MIRZA
http://karomasti9.blogspot.com/2010/12/diya-mirza.html
HOT AISHWARIYA RAI
http://karomasti9.blogspot.com/2010/12/aish.html
priyamani hot&sexy photos
http://karomasti9.blogspot.com/2010/12/priyamani.html
KATRINA SEXY PHOTOS
http://karomasti9.blogspot.com/2010/12/katrina.html
ANUSHKA HOT PHOTOS
http://karomasti9.blogspot.com/2010/12/anuska.html
BEAUTIFUL AISHWARIYA RAI
http://karomasti9.blogspot.com/2010/12/aiesh.html
TRISHA HOT PHOTOS
http://karomasti9.blogspot.com/2010/11/trisha-hot.html
AMISHAPATEL HOT VIDEOS
http://karomasti9.blogspot.com/search/label/amisha
HANSIKHA HOT SEXY PHOTOS
http://karomasti9.blogspot.com/search/label/HANSIKA
HOT SEXY COLLEGE GIRLS
http://karomasti9.blogspot.com/search/label/hot
BEAUTIFUL LARADATTA
http://karomasti9.blogspot.com/search/label/laradatta
NIKISHA HOT BOOBS
http://karomasti9.blogspot.com/search/label/nikisha

PRIYANKA SPICY LATEST PICS
http://karomasti9.blogspot.com/search/label/priyanka
ONLY FOR YOUTH
http://karomasti9.blogspot.com/search/label/spicy
SRILEKHA UNSEENED PHOTOS
http://karomasti9.blogspot.com/search/label/Srilekha
CHOPRA UNBELIVABLE PHOTOS
http://karomasti9.blogspot.com/search/label/chopra
HOT BIPASA BASU PHOTOS
http://karomasti9.blogspot.com/search/label/bipasa
TRISHA IN A SEXY FEEL
http://karomasti9.blogspot.com/search/label/thrisha
SRISHA HOT BOOBS SHOW
http://karomasti9.blogspot.com/search/label/srisha
BEAUTIFUL POONAM PHOTOS
http://karomasti9.blogspot.com/search/label/poonam

155. Re: More on R + jX vs. SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-25 12:09:11 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <20a6ee88-a8b3-4efa-9ea2-7fcb2f839831@r16g2000prh.googlegroups.com>
Source record: 5806

On Jan 24, 4:11 pm, "Nordic Breeds WA4VZQ"
<ABSOLUTELYwa4vz...@SPAMlive.com> wrote:
> Postscript: I used rich text format solely because I could use Greek
> letters. Gamma and rho are almost universally used to represent the
> complex reflection coefficient and its magnitude respectively in
> engineering publications.

When I read the posting, both Gamma and rho are displayed as a '?'.
--
73, Cecil, w5dxp.com

156. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-25 16:57:56 UTC
From: K J Courter <K.J.Courter.784ba19@radiobanter.com>
Message-ID: <K.J.Courter.784ba19@radiobanter.com>
Source record: 5807

bpuharic;728489 Wrote:
> Just got a honda element...any way to put a whip on it w/o cutting it?
> thanks much

I don't know what a Honda element looks like but if it has a hatch back
or trunk lid I can show you a way to mount an antenna that will work -
where can I send you pictures?

--
K J Courter

157. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-26 00:49:51 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <nsruj69017cu90o3cd08t4knrj0j28914i@4ax.com>
Source record: 5808

On Tue, 25 Jan 2011 16:57:56 +0000, K J Courter
<K.J.Courter.784ba19@radiobanter.com> wrote:

>
>bpuharic;728489 Wrote:
>> Just got a honda element...any way to put a whip on it w/o cutting it?
>> thanks much
>
>I don't know what a Honda element looks like but if it has a hatch back
>or trunk lid I can show you a way to mount an antenna that will work -
>where can I send you pictures?

that would be good! to wf3h(at)comcast.net

158. Re: any way to put a mobile antenna on an element

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-26 00:50:15 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <itruj61ttaq2ao66bgimgr2mvio9ui8s30@4ax.com>
Source record: 5809

On Mon, 24 Jan 2011 09:46:33 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>art clemons wrote:
>> bpuharic wrote:
>>
>>> thanks, joe! that's a possibility and it would get the whip above roof
>>> level.
>>
>>
>> One other possibility is one of the four magnet magmount setups. Some even
>> come with coax. I've even seen such mounts used for screwdrivers if you
>> still have your prior one. Before anyone points out they have to be
>> grounded properly, the mounting holes for the roof mount offer access to at
>> least some grounding with the proper short bolt. I suspect such a scheme
>> might have the grounding strap()/wire(s) too long at 10 meters, but for 17
>> meters through 75, probably should be adequate.
>
>On many cars these days, there is a plastic cover at the end of the roof
>rack that covers a bolt that holds the rack onto the car. A ring lug
>under the bolt and a black powerpole connector glued into a notch cut in
>that plastic cover might give a really nice connection to the metal roof.

thanks guys may consider that. might be the best solution

159. Re: More on R + jX vs. SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-26 11:58:09 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <ihp28kgcg1@ra.nrl.navy.mil>
Source record: 5810

On 01/24/2011 05:11 PM, Nordic Breeds WA4VZQ wrote:

> We usually think that we can replace the line impedance with 50 + j0, but
> as my friend Tom, K7ITM, often points out, so-called 50 ohm cable no
> longer has a purely resistive characteristic impedance at low
> frequencies. So we need to calculate the reflection coefficient as a
> complex number. Once we have this, we need to determine the magnitude of
> the reflection coefficient.

Hello, and I believe some clarification is needed here. First, for most ham radio applications we can assume a real characteristic impedance for the transmission line (e.g. Zo = Ro = 50 ohms). The only time this leads to large errors when calculating the line-transformed load impedance (e.g. an antenna at a given frequency) occurs when the VSWR of the load is greater than 10 or 20. (This was pointed out in a 1953 AIEE paper by W. W. Macalpine.)

However, just because the reference impedance, Zo, is assumed to be real doesn't mean that the reflection coefficient has to be real. Sincerely, and 73s from N4GGO,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

160. Re: QRZ page

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-26 22:48:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <da79ebda-8f01-47a3-9ed1-e741b6a9e6b3@j19g2000prh.googlegroups.com>
Source record: 5811

On Jan 26, 9:42 pm, Oliver <O_Epstein@att.net> wrote:
> Hello All de Chip !

goodbye, and no thanks to 'oliver' for posting that.

161. Re: QRZ page

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-26 23:37:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mvb1k6haftm59mdp189av68m9mab2srghc@4ax.com>
Source record: 5812

On Wed, 26 Jan 2011 13:42:56 -0800 (PST), Oliver <O_Epstein@att.net>
wrote:

>QST---QST----QST-----

Isn't it a little late for Xmas news letters?

73's
Richard Clark, KB7QHC

162. Re: More on R + jX vs. SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-28 00:39:30 UTC
From: Nordic Breeds WA4VZQ <ABSOLUTELYwa4vzqNO@SPAMlive.com>
Message-ID: <iht382$d4u$1@news.eternal-september.org>
Source record: 5813

Read this in a fixed-width font for the table to show properly.

"J.B. Wood" <john.wood@nrl.navy.mil> wrote in message news:ihp28kgcg1@ra.nrl.navy.mil...
> On 01/24/2011 05:11 PM, Nordic Breeds WA4VZQ wrote:
>
>> We usually think that we can replace the line impedance with 50 + j0, but
>> as my friend Tom, K7ITM, often points out, so-called 50 ohm cable no
>> longer has a purely resistive characteristic impedance at low
>> frequencies. So we need to calculate the reflection coefficient as a
>> complex number. Once we have this, we need to determine the magnitude of
>> the reflection coefficient.
>
> Hello, and I believe some clarification is needed here. First, for most
> ham radio applications we can assume a real characteristic impedance for
> the transmission line (e.g. Zo = Ro = 50 ohms). The only time this
> leads to large errors when calculating the line-transformed load
> impedance (e.g. an antenna at a given frequency) occurs when the VSWR of
> the load is greater than 10 or 20. (This was pointed out in a 1953 AIEE
> paper by W. W. Macalpine.)
>
> However, just because the reference impedance, Zo, is assumed to be real
> doesn't mean that the reflection coefficient has to be real. Sincerely,
> and 73s from N4GGO,
>
> --
> John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil
> Naval Research Laboratory
> 4555 Overlook Avenue, SW
> Washington, DC 20375-5337

Thanks for commenting, James.

I decided to calculate the characteristic impedance of Times Microwave LMR-240 cable at several frequencies just to see. This is basically a foamed dielectric version of RG-58 and I had the data handy.

The equation for characteristic impedance is:

Zo = sqrt[(R + j*w*L) / (G + j*w*C)]

where: R = distributed series resistance, Ohms/meter
L = distributed series inductance, Henries/meter
G = distributed shunt conductance, Siemens/meter
C = distributed shunt capacitance, Farads/meter
w = radian frequency, 2*Pi*f, radians/second.

For LMR-240, Times gives:

Inner Conductor Solid BC 0.056 in (1.42 mm)
Dielectric Foam Polyethylene 0.150 in (3.81 mm)
Outer Conductor Aluminum Tape 0.155 in (3.94 mm)
Overall Braid Tinned Copper 0.178 in (4.52 mm)

Velocity of Propagation 84%
Dielectric Constant NA 1.42
Time Delay nS/ft (nS/m) 1.21 (3.97)
Impedance ohms 50
Capacitance pF/ft (pF/m) 24.2 (79.4)
Inductance uH/ft (uH/m) 0.060 (0.20)
Shielding Effectiveness dB >90
DC Resistance
Inner Conductor ohms/1000ft (/km) 3.2 (10.5)
Outer Conductor ohms/1000ft (/km) 3.89 (12.8)
Voltage Withstand Volts DC 1500
Jacket Spark Volts RMS 5000
Peak Power kW 5.6

So with this data, assuming the resistance is constant with frequency (reasonable considering the skin depth), we get:

R = (10.5 + 12.8)ohms/1E3-meters = 0.0233 ohm/meter
L = 0.20 uH/meter = 2E-7 Henry/meter
C = 79.4 pF/meter = 7.94E=11 Farad/meter

To get G, we know that the dielectric is foamed polyethylene with a resistivity of 1E16 ohm-cm, or 1E14 Ohm-meter. The equation for conductance in the concentric configuration of coaxial cable is:

G = G = 2*Pi*Sigma/ln(B/A) = 6.283E-14/ln(3.81/1.42) = 6.366E-14 Siemans/meter

At this point, I used Excel 2003 with the Analysis Toolpack to do the caculations with complex numbers. While Excel does the calculations without difficulty, Microsoft never thought about formatting complex numbers, so the following table is edited from Excel by hand. :-(apologize for any transcription errors.

Frequency, Hz Characteristic Impedance, Ohms Magnitude Phase, degrees
1.000E00 4832.837 - j4831.960 6834.044 -44.4994
1.000E01 1528.565 - j1527.717 2161.115 -44.9842
1.000E02 484.545 - j481.932 683.409 -44.8455
1.000E03 156.989 - j148.750 216.284 -43.4564
1.000E04 62.551 - j37.333 72.845 -30.8304
1.000E05 50.402 - j4.633 50.614 - 5.2521
1.000E06 50.191 - j0.465 50.193 - 0.5311
1.000E07 50.189 - j0.001 50.187 - 0.0531

So as we go increasingly below one MegaHertz, the characteristic impedance of the cable increases to above 50 ohms and it becomes increasingly capacitive. If the FCC grants hams a band in the LF region, we might have to consider this. But then, our cables will be very short in terms of wavelength.

73, Dr. Barry L. Ornitz WA4VZQ

163. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-28 02:42:15 UTC
From: K7JEB <k7jeb.jim@gmail.com>
Message-ID: <f2972d5f-69d2-429a-bba8-0dc63fc9b3ba@s29g2000pra.googlegroups.com>
Source record: 5814

On Jan 20, 5:47 pm, Gary <jgboy...@aol.com> wrote:

> > The article described a series LC, a fixed L and a air variable C.
> > The impedance of the L was bigger than the impedance of the C,
> > and by adjusting the C you caused the inductance to vary.
> > So in effect you have a variable inductor.

> I recall the article and have it around somewhere. The problem with
> this (if you want to call it a problem) is it only works for a small
> range of frequencies.

They do the reverse of this in AM broadcast antenna matching
networks (doghouses) where the object is NOT to have a variable
capacitor. A fixed, high-reactance capacitor is placed in series
with a 'tappable' inductor and the capacitor is 'tuned' by adjusting
the tap on the inductor. Again, works well at one frequency,
but not over an octave bandwidth.... K7JEB

164. HOT NEVER HOT VIDEOS PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-28 12:17:38 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <3a01c129-ec65-4448-bbce-3f2051bf6747@32g2000yql.googlegroups.com>
Source record: 5815

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

165. World Peace ! The world in all over the world !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-28 23:56:06 UTC
From: ExpenseNeox <ExpenseNeox.7895758@radiobanter.com>
Message-ID: <ExpenseNeox.7895758@radiobanter.com>
Source record: 5816

World Peace ! Let's treat each other good ! All happiness and health !
I apologize for the message, please remove.

--
ExpenseNeox

166. -//// Hot celebrity women

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-29 12:43:23 UTC
From: varma <varmard123@gmail.com>
Message-ID: <80f5a793-0863-4882-b304-2e9e7c540889@y3g2000vbh.googlegroups.com>
Source record: 5817

http://www.celebsimzs.com/2011/01/hot-celebrity-girl.html

167. Re: Magazine article "For the L of it".

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-29 17:33:04 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <6d798624-dc50-4a4d-b5b3-9eb61b610267@s29g2000pra.googlegroups.com>
Source record: 5818

On Jan 27, 9:42 pm, K7JEB <k7jeb....@gmail.com> wrote:
> On Jan 20, 5:47 pm, Gary <jgboy...@aol.com> wrote:
>
> > > > The article described a series LC, a fixed L and a air variable C.
> > > The impedance of the L was bigger than the impedance of the C,
> > > and by adjusting the C you caused the inductance to vary.
> > > So in effect you have a variable inductor.
> > I recall the article and have it around somewhere. The problem with
> > this (if you want to call it a problem) is it only works for a small
> > range of frequencies.
>
> They do the reverse of this in AM broadcast antenna matching
> networks (doghouses) where the object is NOT to have a variable
> capacitor. A fixed, high-reactance capacitor is placed in series
> with a 'tappable' inductor and the capacitor is 'tuned' by adjusting
> the tap on the inductor. Again, works well at one frequency,
> but not over an octave bandwidth.... K7JEB

The OP's arrangement works well for impedance matching and is suitable
for tuning a circuit to resonance. I dont believe the circuit he
described would be much different from the resonant circuit in a
Colpitts osc.

Jimmie

168. Re: World Peace ! The world in all over the world !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-30 01:21:18 UTC
From: tom <news4792@taring.org>
Message-ID: <4d44bd08$0$6701$8046368a@newsreader.iphouse.net>
Source record: 5819

On 1/28/2011 5:56 PM, ExpenseNeox wrote:
> World Peace ! Let's treat each other good ! All happiness and health !
> I apologize for the message, please remove.
>
>
>
>

What a strange person.

169. XXX HOT VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-30 05:27:49 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <19f63373-cca9-4974-9c82-1272178089e2@y12g2000prf.googlegroups.com>
Source record: 5820

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

170. SW antenna for Grundig Satellit 750?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 00:05:58 UTC
From: PapiBow <PapiBow.78bfa58@radiobanter.com>
Message-ID: <PapiBow.78bfa58@radiobanter.com>
Source record: 5821

I am considering this antenna for Grundig Satellit 750, link below.

http://universal-radio.com/catalog/sw_ant/3377.html

my first question is about the effectiveness of this antenna in a limited space on patio of about 15 feet by 15 feet, next to a 2-story building. I would raise the antenna center to about 10 feet and then run each of the 40-foot wings in zigzags on the sides. Later, I might move to a larger place and have full space for the antenna. I do not want to buy an antenna for limited space now if this antenna could be made as effective for the limited space as an antenna designed for smaller space.

the second question is about durability, is it solid construction to last for years?

the third question is about any extra hardware needed. My Grundig radio has a female BNC socket 50-ohm. This antenna comes with coax cable RG-8X and PL-259. This means I need an adapter from PL-259 to BNC. Will this adapter create any noise? Do I need any additional hardware to make it work better, like a preamp?

--
PapiBow

171. Re: More on R + jX vs. SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 07:32:10 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <5cbb7dcc-9a2c-465f-96b9-677e31ff0309@o1g2000yqb.googlegroups.com>
Source record: 5822

On Jan 27, 4:39 pm, "Nordic Breeds WA4VZQ"
<ABSOLUTELYwa4vz...@SPAMlive.com> wrote:
> Read this in a fixed-width font for the table to show properly.
>
>
>
> "J.B. Wood" <john.w...@nrl.navy.mil> wrote in
messagenews:ihp28kgcg1@ra.nrl.navy.mil...
> > On 01/24/2011 05:11 PM, Nordic Breeds WA4VZQ wrote:
>
> >> We usually think that we can replace the line impedance with 50 + j0, but
> >> as my friend Tom, K7ITM, often points out, so-called 50 ohm cable no
> >> longer has a purely resistive characteristic impedance at low
> >> frequencies. So we need to calculate the reflection coefficient as a
> >> complex number. Once we have this, we need to determine the magnitude of
> >> the reflection coefficient.
>
> > Hello, and I believe some clarification is needed here. First, for most
> > ham radio applications we can assume a real characteristic impedance for
> > the transmission line (e.g. Zo = Ro = 50 ohms). The only time this
> > leads to large errors when calculating the line-transformed load
> > impedance (e.g. an antenna at a given frequency) occurs when the VSWR of
> > the load is greater than 10 or 20. (This was pointed out in a 1953 AIEE
> > paper by W. W. Macalpine.)
>
> > However, just because the reference impedance, Zo, is assumed to be real
> > doesn't mean that the reflection coefficient has to be real. Sincerely,
> > and 73s from N4GGO,
>
> > --
> > John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
> > Naval Research Laboratory
> > 4555 Overlook Avenue, SW
> > Washington, DC 20375-5337
>
> Thanks for commenting, James.
>
> I decided to calculate the characteristic impedance of Times Microwave LMR-240 cable at
several frequencies just to see. This is basically a foamed dielectric version of RG-58
and I had the data handy.
>
> The equation for characteristic impedance is:
>
>   Zo = sqrt[(R + j*w*L) / (G + j*w*C)]

>
> where: R = distributed series resistance, Ohms/meter
>   L = distributed series inductance, Henries/meter
>   G = distributed shunt conductance, Siemens/meter
>   C = distributed shunt capacitance, Farads/meter
>   w = radian frequency, 2*Pi*f, radians/second.
>
> For LMR-240, Times gives:
>
> Inner Conductor Solid BC 0.056 in (1.42 mm)
> Dielectric Foam Polyethylene 0.150 in (3.81 mm)
> Outer Conductor Aluminum Tape 0.155 in (3.94 mm)
> Overall Braid Tinned Copper 0.178 in (4.52 mm)
>
> Velocity of Propagation 84%
> Dielectric Constant NA 1.42
> Time Delay nS/ft (nS/m) 1.21 (3.97)
> Impedance ohms 50
> Capacitance pF/ft (pF/m) 24.2 (79.4)
> Inductance uH/ft (uH/m) 0.060 (0.20)
> Shielding Effectiveness dB >90
> DC Resistance
> Inner Conductor ohms/1000ft (/km) 3.2 (10.5)
> Outer Conductor ohms/1000ft (/km) 3.89 (12.8)
> Voltage Withstand Volts DC 1500
> Jacket Spark Volts RMS 5000
> Peak Power kW 5.6
>
> So with this data, assuming the resistance is constant with frequency (reasonable considering the skin depth), we get:
>
>   R = (10.5 + 12.8)ohms/1E3-meters = 0.0233 ohm/meter
>   L = 0.20 uH/meter = 2E-7 Henry/meter
>   C = 79.4 pF/meter = 7.94E=11 Farad/meter
>
> To get G, we know that the dielectric is foamed polyethylene with a resistivity of 1E16 ohm-cm, or 1E14 Ohm-meter. The equation for conductance in the concentric configuration of coaxial cable is:
>
>   G = G = 2*Pi*Sigma/ln(B/A) = 6.283E-14/ln(3.81/1.42) = 6.366E-14 Siemans/meter
>
> At this point, I used Excel 2003 with the Analysis Toolpack to do the caculations with complex numbers. While Excel does the calculations without difficulty, Microsoft never thought about formatting complex numbers, so the following table is edited from Excel by hand. :-(apologize for any transcription errors.
>

Frequency, Hz	Characteristic Impedance, Ohms	Magnitude	Phase, degrees
1.000E00	4832.837 - j4831.960	6834.044	-44.4994
1.000E01	1528.565 - j1527.717	2161.115	-44.9842
1.000E02	484.545 - j481.932	683.409	-44.8455

>   1.000E03   156.989 - j148.750   216.284   -43.4564
>   1.000E04   62.551 - j37.333   72.845   -30.8304
>   1.000E05   50.402 -   j4.633   50.614   - 5.2521
>   1.000E06   50.191 -   j0.465   50.193   - 0.5311
>   1.000E07   50.189 -   j0.001   50.187   - 0.0531
>
> So as we go increasingly below one MegaHertz, the characteristic impedance of the cable increases to above 50 ohms and it becomes increasingly capacitive. If the FCC grants hams a band in the LF region, we might have to consider this. But then, our cables will be very short in terms of wavelength.
>
>   73, Dr. Barry L. Ornitz   WA4VZQ

Barry's assumption of resistance being the same as the DC resistance and independent of frequency will make the characteristic impedance look closer to resistive than it actually is, at frequencies where skin depth is small compared with conductor thickness. Since in copper, skin depth at 1MHz is only about 2.6 mils (and is inversely proportional to the square root of the frequency), the resistance of that particular line's conductors at 1MHz will be considerably higher than the DC resistance.

Dare I mention that when the line impedance is reactive, you can get reflection coefficients with magnitude greater than unity? Seems like every time that comes up here, someone gets their knickers in a knot about it. Reflection coefficient = rho = (Z-Zo)/(Z+Zo), so if Z (the load impedance) is a pure inductance, say +j50 ohms, and the line impedance is (from Barry's chart) 50.4-j4.63 ohms, then rho = -0.0134+j1.096, and |rho| = 1.096. But to calm your nerves, calculate what the impedance is looking into any length of that line you wish, terminated that way, and you'll see that the impedance never has a negative real part.

Cheers,
Tom

172. Antenna DXOne MKII Rf.systems

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 15:57:27 UTC
From: socrate <ffiorin@iol.it>
Message-ID: <ii6m56$bd4$1@speranza.aioe.org>
Source record: 5823

I own this kind of antenna. Any opinion about this product?
Is the installation difficult?
Many thanks

173. Re: SW antenna for Grundig Satellit 750?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 19:35:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q83ek69u7nbjfdvnc32vaot8dess5q3lbl@4ax.com>
Source record: 5824

On Mon, 31 Jan 2011 00:05:58 +0000, PapiBow
<PapiBow.78bfa58@radiobanter.com> wrote:

>
>I am considering this antenna for Grundig Satellit 750, link below.
>
>http://universal-radio.com/catalog/sw_ant/3377.html

Looks like a decent antenna for your purposes.

>my first question is about the effectiveness of this antenna in a
>limited space on patio of about 15 feet by 15 feet, next to a 2-story
>building. I would raise the antenna center to about 10 feet and then run
>each of the 40-foot wings in zigzags on the sides.

This will work fine.

>Later, I might move
>to a larger place and have full space for the antenna. I do not want to
>buy an antenna for limited space now if this antenna could be made as
>effective for the limited space as an antenna designed for smaller
>space.

If anything would improve your situation, it would be raising it
higher.

>the second question is about durability, is it solid construction to
>last for years?

Dunno. At the prices shown, they are within ballpark for the
complexity offered. Wire lasts a long time. You could certainly pay
more, much more, and obtain no better results on your radio, and for
no longer life in the air.

>the third question is about any extra hardware needed. My Grundig radio
>has a female BNC socket 50-ohm. This antenna comes with coax cable RG-8X
>and PL-259. This means I need an adapter from PL-259 to BNC. Will this
>adapter create any noise?

Not in the least.

>Do I need any additional hardware to make it
>work better, like a preamp?

Get a cheap antenna tuner. Look around for Ham radio antenna tuners
that do not have metering (you don't need, and couldn't use it
anyway). If you come across one that has metering, and is cheap
enough, buy it.

You can also build your own tuner if you are hobby inclined. It is simple enough, requires few skills, tools (a soldering iron) and parts (two multiposition switchs, make your own coil, find two variable capacitors) in a box.

73's
Richard Clark, KB7QHC

174. Re: SW antenna for Grundig Satellit 750?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 20:05:06 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <Je2dneOt7fxtiNrQnZ2dnUVZ_jWdnZ2d@earthlink.com>
Source record: 5825

"PapiBow" <PapiBow.78bfa58@radiobanter.com> wrote in message
news:PapiBow.78bfa58@radiobanter.com...

I am considering this antenna for Grundig Satellit 750, link below.

http://universal-radio.com/catalog/sw_ant/3377.html

my first question is about the effectiveness of this antenna in a
limited space on patio of about 15 feet by 15 feet, next to a 2-story
building. I would raise the antenna center to about 10 feet and then run
each of the 40-foot wings in zigzags on the sides. Later, I might move
to a larger place and have full space for the antenna. I do not want to
buy an antenna for limited space now if this antenna could be made as
effective for the limited space as an antenna designed for smaller
space.

the second question is about durability, is it solid construction to
last for years?

the third question is about any extra hardware needed. My Grundig radio
has a female BNC socket 50-ohm. This antenna comes with coax cable RG-8X
and PL-259. This means I need an adapter from PL-259 to BNC. Will this
adapter create any noise? Do I need any additional hardware to make it
work better, like a preamp?

--
PapiBow

I just can't see paying over $ 150 for a bunch of wire to use as a receiving antenna. Think I would just put up a center insulator and as much wire as I could in the space you have. Also do a search for a Windom antenna. You probably will get the same results for a lot less money.

175. A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 20:20:57 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d4719a9$0$2057$4fafbaef@reader1.news.tin.it>
Source record: 5826

Yesterday, while repairing my antenna, something came to my mind I had never focused on before.

Let us consider a bipole, that is a "black box" having TWO terminals and including plain passive elements only (like capacitors, inductors, ... , no diodes or other special devices), arranged the way you prefer, it does not matter.

In my mind it was quite clear that, when fitting such a bipole into a circuit, the sense makes no difference, i.e. one can reverse the two terminals with no consequence. As a matter of fact, the bipole has an equivalent impedance that remains the same independently of the way it is put in the circuit.

Yesterday a case occurred to me in which this is not actually true.

Instead of directly telling which it is, just for fun I wonder whether anyone can figure out a case in which a bipole may not be reversed without consequences. Not difficult, but it anyway requires some thinking.

Although probably unnecessary, let me recall that a filter is typically a THREE-terminal device (IN, OUT, GROUND), not a TWO-terminal one.

73

Tony I0JX
Rome, Italy

176. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 20:34:09 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d7bbe127-2c45-4cf5-a88a-a2ab2804e7d9@y11g2000yqa.googlegroups.com>
Source record: 5827

On 31 ene, 21:20, "Antonio Vernucci" <vernu...@tin.it> wrote:
> Yesterday, while repairing my antenna, something came to my mind I had never
> focused on before.
>
> Let us consider a bipole, that is a "black box" having TWO terminals and
> including plain passive elements only (like capacitors, inductors, ... , no
> diodes or other special devices), arranged the way you prefer, it does not
> matter.
>
> In my mind it was quite clear that, when fitting such a bipole into a circuit,
> the sense makes no difference, i.e. one can reverse the two terminals with no
> consequence. As a matter of fact, the bipole has an equivalent impedance that
> remains the same independently of the way it is put in the circuit.
>
> Yesterday a case occurred to me in which this is not actually true.
>
> Instead of directly telling which it is, just for fun I wonder whether anyone
> can figure out a case in which a bipole may not be reversed without
> consequences. Not difficult, but it anyway requires some thinking.
>
> Although probably unnecessary, let me recall that a filter is typically a
> THREE-terminal device (IN, OUT, GROUND), not a TWO-terminal one.
>
> 73
>
> Tony I0JX
> Rome, Italy

Hello Tony,

The answer may be in your own text (the ground issue). There may be a
third path via ground (capacitive coupling).

You can add a very good common mode choke at the input terminal of you
bipole. In that case the path via ground is blocked.

Try a very simple bipole: metallic case connected to terminal 1,
terminal 2 connected to nothing. When the center conductor of your
source is connected to terminal 1, you have the ground path.

The effect of reverse connection will be less when you use a very
small battery powered source that is completely floating. Measuring
data you can get out of it via optical link...

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

177. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 21:38:27 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d472bd3$0$19274$4fafbaef@reader2.news.tin.it>
Source record: 5828

> The answer may be in your own text (the ground issue). There may be a
> third path via ground (capacitive coupling).

Hi Wim,

I acknowledege that your example leads to an asymmetric bipole, that one cannot reverse it without consequences.

However, in the case which occurred to me, there is no need to assume the existence of a third path via ground for justifying the asymmetry. Actually the asimmetry remains even if the bipole would be in free space!

Forgive me if I do not immediately reveal my case, but I would like to see if there are some more guesses before closing the issue.

73

Tony I0JX

178. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 23:23:33 UTC
From: joe <none@invalid.domain>
Message-ID: <ii7gji$h2i$1@speranza.aioe.org>
Source record: 5830

K1TTT wrote:

>
> as long as it is ONLY 2 ports, has ONLY passive linear components, AND
> is small enough to be considered a lumped element, then you can always
> reverse the terminals and not know the difference. The most
> frequently violated condition is the last one, put in a piece of coax
> with that is long enough to be measured at the highest frequency you
> will use and all bets are off.

An electrolytic capacitor acts differently if reverse biased. The results
are usually bad. It does qualify as two leaded, passive and linear when used
properly.

179. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 23:23:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <45019a7c-1c02-4f22-870f-db3de8b27609@q7g2000vbd.googlegroups.com>
Source record: 5829

On Jan 31, 9:38 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
> > The answer may be in your own text (the ground issue). There may be a
> > third path via ground (capacitive coupling).
>
> Hi Wim,
>
> I acknowledege that your example leads to an asymmetric bipole, that one cannot
> reverse it without consequences.
>
> However, in the case which occurred to me, there is no need to assume the
> existence of a third path via ground for justifying the asymmetry. Actually the
> asimmetry remains even if the bipole would be in free space!
>
> Forgive me if I do not immediately reveal my case, but I would like to see if
> there are some more guesses before closing the issue.
>
> 73
>
> Tony I0JX

as long as it is ONLY 2 ports, has ONLY passive linear components, AND
is small enough to be considered a lumped element, then you can always
reverse the terminals and not know the difference. The most
frequently violated condition is the last one, put in a piece of coax
with that is long enough to be measured at the highest frequency you
will use and all bets are off.

180. Re: SW antenna for Grundig Satellit 750?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 23:41:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <40iek6l1vo2pqukjjsbvvp7oc3013nghnk@4ax.com>
Source record: 5831

On Mon, 31 Jan 2011 15:05:06 -0500, "Ralph Mowery"
<rmowery28146@earthlink.net> wrote:

>I just can't see paying over $ 150 for a bunch of wire to use as a receiving antenna.

On second glance at the page, I noticed my eye was drawn to the cost
of the downlead, not the antenna. Yes, $150 + another $30 - $40 is a
lot of money to spend, if you can "do it yourself." Most can do it
themselves - wanting to is another matter.

73's
Richard Clark, KB7QHC

181. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 23:51:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <17iek6lj2l54aloc4tqh9nta0u7ksrc1sk@4ax.com>
Source record: 5832

On Mon, 31 Jan 2011 21:20:57 +0100, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>Instead of directly telling which it is, just for fun I wonder whether anyone
>can figure out a case in which a bipole may not be reversed without
>consequences. Not difficult, but it anyway requires some thinking.

Hi Antonio,

This would fall into the area of a hidden variable (a ghost terminal,
so-to-speak) and is called Common Mode. This occurs in the situation
that includes the proximity of ground which is often neglected as an
influence.

The dipole could be unbalanced forcing currents to be out of balance.
This is notorious with cabled down leads which preserves the sense of
two terminals, but the imbalance with ground forces a third terminal
into the reality of implementation.

If we were to divorce ground from this (free space) and simply looked
at the two lead impedance at the drive point, then adding a cable will
force the same imbalance (albeit to a different degree, as found with
the proximity of earth). If the dipole is off-center fed, this will
be more profound (even though when it is measured at the feed point,
the measurement is immune to pole switching).

Reversing the "polarity" of the cable connection will create a new
topology (although the Common Mode will persist with new
characteristics).

>Although probably unnecessary, let me recall that a filter is typically a
>THREE-terminal device (IN, OUT, GROUND), not a TWO-terminal one.

Well, even though I have anticipated ground, a filter can easily be a
two terminal device without need for ground - being a series
component. This two terminal description is quite typical too.

73's
Richard Clark, KB7QHC

182. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-01-31 23:54:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jriek6ppr773f23qubm76t12kv8vhn7smb@4ax.com>
Source record: 5833

On Mon, 31 Jan 2011 17:23:33 -0600, joe <none@invalid.domain> wrote:

>An electrolytic capacitor acts differently if reverse biased. The results
>are usually bad. It does qualify as two leaded, passive and linear when used
>properly.

Hi Joe,

The same can be said of a diode. Hence the electrolytic capacitor is
non-linear, which violates the premise.

73's
Richard Clark, KB7QHC

183. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 00:18:33 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bb5dc7a1-88bd-45de-aac6-e7b3e41192bf@v16g2000vbq.googlegroups.com>
Source record: 5834

```
On Jan 31, 11:23 pm, joe <n...@invalid.domain> wrote:
> K1TTT wrote:
>
> > as long as it is ONLY 2 ports, has ONLY passive linear components, AND
> > is small enough to be considered a lumped element, then you can always
> > reverse the terminals and not know the difference.  The most
> > frequently violated condition is the last one, put in a piece of coax
> > with that is long enough to be measured at the highest frequency you
> > will use and all bets are off.
>
> An electrolytic capacitor acts differently if reverse biased. The results
> are usually bad. It does qualify as two leaded, passive and linear when used
> properly.

an electrolytic that acts that way is not a linear component.
```

184. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 07:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1296543600@panix.com>
Source record: 5835
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

185. BEST HOT MASALA VIDEOS SITES AND LIP KISS PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 07:41:00 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <d3241c47-bfeb-4c5f-9c82-3e2c000be693@q14g2000vbf.googlegroups.com>
Source record: 5836

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

186. Quarter-wave matching coaxial cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 08:05:55 UTC
From: eddy <eddy.78da038@radiobanter.com>
Message-ID: <eddy.78da038@radiobanter.com>
Source record: 5837

To to feed a delta loop with a 1/4 wavellenght coaxial section I used my MFJ259B following the instruction of the MFJ259b manual (7.1 Testing Stubs)
To verify the section I have followed other two methods:
1. MFJ259 manual (Testing Stub with help of 50ohm resistor for lowest SWR)
2. ON4UN method described by Low-Band Dxing Book (Chapter 6, Quarter-wave matching section)

The measures that I got with each of the three methods are too different.
By accepting a reasonable differences in the results, which of the three methods are considered more reliable ?
Ed, IV3TQE

--
eddy

187. Re: Quarter-wave matching coaxial cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 12:06:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <912b310d-8107-40c9-b4db-8c892c49d626@o18g2000prh.googlegroups.com>
Source record: 5838

On Feb 1, 2:05 am, eddy <eddy.78da...@radiobanter.com> wrote:
> ... which of the three methods are considered more reliable ?

I assume you are trying to configure a 1/4WL 75 ohm piece of coax to interface to your ~100 ohm loop. What I would do is cut it a little longer than 1/4WL with the velocity factor taken into account. Connect it to the antenna and trim for lowest SWR on the MFJ258B. Why bother with an exact 1/4WL when you can trim for lowest SWR using the actual antenna?

188. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 13:18:26 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <ii918sgcb1@news.eternal-september.org>
Source record: 5839

"Antonio Vernucci" <vernucci@tin.it> ha scritto nel messaggio
news:4d472bd3$0$19274$4fafbaef@reader2.news.tin.it...
> Forgive me if I do not immediately reveal my case, but I would like to see
> if there are some more guesses before closing the issue.

From my very poor knowledge of trasmission lines...
.. reversing inner and outer conductor of a coaxial cable ?? :)

-.-. --.-

189. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 18:18:14 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <495c0838-323b-4788-bc7d-f97fd232f347@o39g2000prb.googlegroups.com>
Source record: 5840

On Jan 31, 12:20 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
> Yesterday, while repairing my antenna, something came to my mind I had never
> focused on before.
>
> Let us consider a bipole, that is a "black box" having TWO terminals and
> including plain passive elements only (like capacitors, inductors, ... , no
> diodes or other special devices), arranged the way you prefer, it does not
> matter.
>
> In my mind it was quite clear that, when fitting such a bipole into a circuit,
> the sense makes no difference, i.e. one can reverse the two terminals with no
> consequence. As a matter of fact, the bipole has an equivalent impedance that
> remains the same independently of the way it is put in the circuit.
>
> Yesterday a case occurred to me in which this is not actually true.
>
> Instead of directly telling which it is, just for fun I wonder whether anyone
> can figure out a case in which a bipole may not be reversed without
> consequences. Not difficult, but it anyway requires some thinking.
>
> Although probably unnecessary, let me recall that a filter is typically a
> THREE-terminal device (IN, OUT, GROUND), not a TWO-terminal one.
>
> 73
>
> Tony I0JX
> Rome, Italy

I have a circuit I've been working on lately which has a simple series
LC in it, no other connection to the node between the inductor and
capacitor. It turns out that the order of the inductor and capacitor
makes a big difference in the circuit performance. I anticipated that
it would, and put them in the intuitively obvious order, only to find
out that it was the wrong order! A proper model cleared things up
quite nicely. However, in no way would I call that particular part of
the circuit a "two terminal" network. The effect is the same as Wim
mentioned.

Cheers,
Tom

190. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 18:24:20 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d484fd5$0$1339$4fafbaef@reader2.news.tin.it>
Source record: 5841

As long as it is ONLY 2 ports, has ONLY passive linear components, AND
is small enough to be considered a lumped element, then you can always
reverse the terminals and not know the difference. The most
frequently violated condition is the last one, put in a piece of coax
with that is long enough to be measured at the highest frequency you
will use and all bets are off.

Could you please explain me the meaning of your sentence:

"put in a piece of coax with that is long enough to be measured at the highest
frequency you will use and all bets are off"

as I have difficulties to interpret it due to my non-mother tongue english.

73

Tony I0JX
Rome, Italy

191. Re: Quarter-wave matching coaxial cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 21:17:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <adtgk61tu50kar1v6mubjue0r21d3p21m0@4ax.com>
Source record: 5842

On Tue, 1 Feb 2011 08:05:55 +0000, eddy <eddy.78da038@radiobanter.com>
wrote:

>
>To to feed a delta loop with a 1/4 wavellenght coaxial section I used my
>MFJ259B following the instruction of the MFJ259b manual (7.1 Testing
>Stubs)

Hi Eddy,

> which of the three
>methods are considered more reliable ?

The first: 7.1 Testing Stubs

The second method has no sensitivity (Q = 1). The third method
surprises me - a topic for Longwave?

73's
Richard Clark, KB7QHC

192. I DID NOT OPEN THAT

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 22:57:07 UTC
From: amdx <amdx@knology.net>
Message-ID: <6e87$4d488f7c$18ec6dd7$21716@KNOLOGY.NET>
Source record: 5843

Did anybody else?
Mikek

193. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 23:22:31 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e45813d1-8266-42de-950f-8dc74c583f51@e9g2000vbi.googlegroups.com>
Source record: 5844

On Feb 1, 6:24 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
> As long as it is ONLY 2 ports, has ONLY passive linear components, AND
> is small enough to be considered a lumped element, then you can always
> reverse the terminals and not know the difference. The most
> frequently violated condition is the last one, put in a piece of coax
> with that is long enough to be measured at the highest frequency you
> will use and all bets are off.
>
> Could you please explain me the meaning of your sentence:
>
> "put in a piece of coax with that is long enough to be measured at the highest
> frequency you will use and all bets are off"
>
> as I have difficulties to interpret it due to my non-mother tongue english.
>
> 73
>
> Tony I0JX
> Rome, Italy

the general case is, if any part of the circuit is more than a small
fraction of a wavelength in size you may be able to detect the
difference between the ports. one common way to do that is to try to
measure a circuit that has a long piece of coax in it, the results may
be very different when you reverse the terminals.

194. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 23:24:41 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6b6bb646-ad55-4830-b129-e6c319dfd1a8@p11g2000vbq.googlegroups.com>
Source record: 5845

On Feb 1, 6:18 pm, K7ITM <k7...@msn.com> wrote:
> On Jan 31, 12:20 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
>
>
>
> > Yesterday, while repairing my antenna, something came to my mind I had never
> > focused on before.
>
> > Let us consider a bipole, that is a "black box" having TWO terminals and
> > including plain passive elements only (like capacitors, inductors, ... , no
> > diodes or other special devices), arranged the way you prefer, it does not
> > matter.
>
> > In my mind it was quite clear that, when fitting such a bipole into a circuit,
> > the sense makes no difference, i.e. one can reverse the two terminals with no
> > consequence. As a matter of fact, the bipole has an equivalent impedance that
> > remains the same independently of the way it is put in the circuit.
>
> > Yesterday a case occurred to me in which this is not actually true.
>
> > Instead of directly telling which it is, just for fun I wonder whether anyone
> > can figure out a case in which a bipole may not be reversed without
> > consequences. Not difficult, but it anyway requires some thinking.
>
> > Although probably unnecessary, let me recall that a filter is typically a
> > THREE-terminal device (IN, OUT, GROUND), not a TWO-terminal one.
>
> > 73
>
> > Tony I0JX
> > Rome, Italy
>
> I have a circuit I've been working on lately which has a simple series
> LC in it, no other connection to the node between the inductor and
> capacitor. It turns out that the order of the inductor and capacitor
> makes a big difference in the circuit performance. I anticipated that
> it would, and put them in the intuitively obvious order, only to find
> out that it was the wrong order! A proper model cleared things up
> quite nicely. However, in no way would I call that particular part of
> the circuit a "two terminal" network. The effect is the same as Wim
> mentioned.
>
> Cheers,
> Tom

then there is either something wrong with your components or you have
too much coupling the the surrounding environment... so you really had
a 3 terminal network using the stray capacitance or inductance.

195. Re: I DID NOT OPEN THAT

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 23:26:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3b0025fd-a509-44f7-bd68-113e24f9804c@k14g2000pre.googlegroups.com>
Source record: 5846

```
On Feb 1, 10:57 pm, "amdx" <a...@knology.net> wrote:
> Did anybody else?
>              Mikek

does anybody care? or even know what you are talking about?
```

196. Re: I DID NOT OPEN THAT

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-01 23:50:32 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnikh728.vmf.knock_yourself_out@shell.config.com>
Source record: 5847

On Tue, 1 Feb 2011 15:26:00 -0800 (PST), K1TTT wrote:
> On Feb 1, 10:57ï¿½pm, "amdx" <a...@knology.net> wrote:
>> Did anybody else?
>> ï¿½ ï¿½ ï¿½ ï¿½ ï¿½ ï¿½ Mikek
>
> does anybody care? or even know what you are talking about?

I, for one, don't _care_ to _know_ what he's talking about.... :-)

197. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 00:26:17 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <c6a17e9e-fae3-47a8-b5e0-5fe87ae68976@s28g2000prb.googlegroups.com>
Source record: 5848

On Feb 1, 3:24 pm, K1TTT <k1...@arrl.net> wrote:
> On Feb 1, 6:18 pm, K7ITM <k7...@msn.com> wrote:
>
>
>
> > On Jan 31, 12:20 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
>
> > > Yesterday, while repairing my antenna, something came to my mind I had never
> > > focused on before.
>
> > > Let us consider a bipole, that is a "black box" having TWO terminals and
> > > including plain passive elements only (like capacitors, inductors, ... , no
> > > diodes or other special devices), arranged the way you prefer, it does not
> > > matter.
>
> > > In my mind it was quite clear that, when fitting such a bipole into a circuit,
> > > the sense makes no difference, i.e. one can reverse the two terminals with no
> > > consequence. As a matter of fact, the bipole has an equivalent impedance that
> > > remains the same independently of the way it is put in the circuit.
>
> > > Yesterday a case occurred to me in which this is not actually true.
>
> > > Instead of directly telling which it is, just for fun I wonder whether anyone
> > > can figure out a case in which a bipole may not be reversed without
> > > consequences. Not difficult, but it anyway requires some thinking.
>
> > > Although probably unnecessary, let me recall that a filter is typically a
> > > THREE-terminal device (IN, OUT, GROUND), not a TWO-terminal one.
>
> > > 73
>
> > > Tony I0JX
> > > Rome, Italy
>
> > I have a circuit I've been working on lately which has a simple series
> > LC in it, no other connection to the node between the inductor and
> > capacitor. It turns out that the order of the inductor and capacitor
> > makes a big difference in the circuit performance. I anticipated that
> > it would, and put them in the intuitively obvious order, only to find
> > out that it was the wrong order! A proper model cleared things up
> > quite nicely. However, in no way would I call that particular part of
> > the circuit a "two terminal" network. The effect is the same as Wim
> > mentioned.
>

> > Cheers,
> > Tom
>
> then there is either something wrong with your components or you have
> too much coupling the the surrounding environment...

If by "too much" you mean "more than I wanted," you're absolutely right. But of course with real components, there is no such thing as zero coupling to the surrounding environment. As with all real circuits, there are tradeoffs: high coil Q results in a large coil, which in turn results in more capacitance to the shield than a smaller low-Q coil would have. The shield is required for other reasons...

> ... so you really had
> a 3 terminal network using the stray capacitance or inductance.

Exactly. Just what I said: the effect is the same as Wim mentioned.

Cheers,
Tom

198. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 04:33:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3tlhk6dv1a94a87ui5r5lp79ad4hfn5vqm@4ax.com>
Source record: 5849

On Tue, 1 Feb 2011 15:24:41 -0800 (PST), K1TTT <k1ttt@arrl.net> wrote:

>then there is either something wrong with your components or you have
>too much coupling the the surrounding environment... so you really had
>a 3 terminal network using the stray capacitance or inductance.

This can be neutralized employing a "Wagner Earth." For inductors,
there is the Modified Owen method.

Basically, problems of this sort have been handled with driven shields
(a variant of the Wagner Earth/Ground). This exactly century-old
topic ("Wagner Earth") is rarely discussed outside of precision
measurement or very high voltage handling circuits, however.

73's
Richard Clark, KB7QHC

199. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 08:35:38 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d49175b$0$1337$4fafbaef@reader2.news.tin.it>
Source record: 5850

> > as long as it is ONLY 2 ports, has ONLY passive linear components, AND
> > is small enough to be considered a lumped element, then you can always
> > reverse the terminals and not know the difference.

You have pinpointed the correct issue: lumped elements.

The story began when, a few days ago, I was going to replace a trap of my HF yagi. Not to make mistakes, I consulted the antenna assembly manual where I found a big banner: do not invert traps otherwise the antenna will not work.

So, I thought, this is a case in which a bipole cannot be inverted.

This is clearly due to the fact that the external body of the trap (an aluminuim can about 2 feet long), which contains two coils resonated at different frequencies by means of built-in capacitors, is effectively part of the antenna radiating element. So, the trap is a bipole not only comprising lumped elements, and that is the reason why it cannot be inverted.

73

Tony I0JX
Rome, Italy

200. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 08:37:37 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d4917d2$0$1341$4fafbaef@reader2.news.tin.it>
Source record: 5851

Wim,

the story began when, a few days ago, I was going to replace a trap of my HF yagi. Not to make mistakes, I consulted the antenna assembly manual where I found a big banner: do not invert traps otherwise the antenna will not work.

So, I thought, this is a case in which a bipole cannot be inverted.

This is clearly due to the fact that the external body of the trap (an aluminuim can about 2 feet long), which contains two coils resonated at different frequencies by means of built-in capacitors, is effectively part of the antenna radiating element. So, the trap is a bipole not only comprising lumped elements, and that is the reason, I believe, why it cannot be inverted.

73

Tony I0JX
Rome, Italy

201. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 08:42:25 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d4918f2$0$1359$4fafbaef@reader2.news.tin.it>
Source record: 5852

Tom,

the story began when, a few days ago, I was going to replace a trap of my HF yagi. Not to make mistakes, I consulted the antenna assembly manual where I found a big banner: do not invert traps otherwise the antenna will not work.

So, I thought, this is a case in which a bipole cannot be inverted.

This is clearly due to the fact that the external body of the trap (an aluminuim can about 2 feet long), which contains two coils resonated at different frequencies by means of built-in capacitors, is effectively part of the antenna radiating element. So, the trap is a bipole not only comprising lumped elements, and that is the reason why it cannot be inverted.

So, as K1TTT has pointed out, a bipole can be inverted without consequences only if it has only 2 ports, has only passive linear components, and is small enough to be considered a lumped element.

73

Tony I0JX
Rome, Italy

202. Re: I DID NOT OPEN THAT

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 12:43:34 UTC
From: amdx <amdx@knology.net>
Message-ID: <a00bf$4d49513e$18ec6dd7$10465@KNOLOGY.NET>
Source record: 5853

"K1TTT" <k1ttt@arrl.net> wrote in message
news:3b0025fd-a509-44f7-bd68-113e24f9804c@k14g2000pre.googlegroups.com...
On Feb 1, 10:57 pm, "amdx" <a...@knology.net> wrote:
> Did anybody else?
> Mikek

does anybody care? or even know what you are talking about?

Hmm.. My reader shows the previous 10 posts from SWEET RASCAL,
with the subject DO NOT OPEN THIS.
Allodoxaphobia, don't read this post cause, you "don't _care_ to _know"
Mikek

203. Re: I DID NOT OPEN THAT

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 12:49:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8ab73f8a-867a-4f7e-b574-d1a18715e066@m27g2000prj.googlegroups.com>
Source record: 5854

```
On Feb 2, 12:43 pm, "amdx" <a...@knology.net> wrote:
> "K1TTT" <k1...@arrl.net> wrote in message
>
> news:3b0025fd-a509-44f7-bd68-113e24f9804c@k14g2000pre.googlegroups.com...
> On Feb 1, 10:57 pm, "amdx" <a...@knology.net> wrote:
>
> > Did anybody else?
> > Mikek
>
> does anybody care?  or even know what you are talking about?
>
> Hmm.. My reader shows the previous 10 posts from  SWEET RASCAL,
> with the subject DO NOT OPEN THIS.
>  Allodoxaphobia, don't read this post cause, you "don't _care_ to _know"
>                                                 Mikek

you can not assume that anyone else has the same displayed messages in
the same order as you . those were obviously removed before they got
to google groups where i am reading. others may have filtered them
out by other methods, or may be showing them in different orders.
```

204. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 15:11:58 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <f0cffa37-2d75-4c66-84ef-b488ee8b7b31@24g2000yqa.googlegroups.com>
Source record: 5855

On 2 feb, 09:37, "Antonio Vernucci" <vernu...@tin.it> wrote:
> Wim,
>
> the story began when, a few days ago, I was going to replace a trap of my HF
> yagi. Not to make mistakes, I consulted the antenna assembly manual where I
> found a big banner: do not invert traps otherwise the antenna will not work.
>
> So, I thought, this is a case in which a bipole cannot be inverted.
>
> This is clearly due to the fact that the external body of the trap (an aluminuim
> can about 2 feet long), which contains two coils resonated at different
> frequencies by means of built-in capacitors, is effectively part of the antenna
> radiating element. So, the trap is a bipole not only comprising lumped elements,
> and that is the reason, I believe, why it cannot be inverted.
>
> 73
>
> Tony I0JX
> Rome, Italy

Hello Tony,

So it isn't a bipole.

The tube containing the trap is a (short) common mode transmission
line that has effect on its environment (like a metal case with its
capacitive effect on ground). The trap inside the metal tube is in
series with the end of the short transmission line.

The ground in this case is the boundary where the near field is no
longer dominant w.r.t. to the radiating field. Think of a circular
ground at 0.16lambda from the structure. So one end of your bipole
has more ground to this virtual ground and is therefore a 3-pole
device.

For the limitation on lumped circuit approach, it is not important
whether or not it contributes to the overall radiation of a
structure. When you make a floating ground out of 4 quarter-wave
radials (monopole?), this structure has minor influence on the far
field pattern of the quarter wave (or better half wave) radiator above
it.

Best regards,

Wim
PA3DJS

www.tetech.nl
without abc, PM will reach me

205. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 15:53:56 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d497e19$0$2499$65785112@news.neostrada.pl>
Source record: 5856

"Wimpie" <wimabctel@tetech.nl> napisal w wiadomosci
news:f0cffa37-2d75-4c66-84ef-b488ee8b7b31@24g2000yqa.googlegroups.com...
> On 2 feb, 09:37, "Antonio Vernucci" <vernu...@tin.it> wrote:
>>>
> For the limitation on lumped circuit approach, it is not important
> whether or not it contributes to the overall radiation of a
> structure. When you make a floating ground out of 4 quarter-wave
> radials (monopole?), this structure has minor influence on the far
> field pattern of the quarter wave (or better half wave) radiator above
> it.

In http://www.padrak.com/ine/FARADAY1.html Faraday wrote:

"The view which I am so bold to put forth considers, therefore, radiation as
a kind of species of vibration in the lines of force which are known to
connect particles and also masses of matter together. It endeavors to
dismiss the aether, but not the vibration. The kind of vibration which, I
believe, can alone account for the wonderful, varied, and beautiful
phaenomena of polarization, is not the same as that which occurs on the
surface of disturbed water, or the waves of sound in gases or liquids, for
the vibrations in these cases are direct, or to and from the centre of
action, whereas the former are lateral. It seems to me, that the resultant
of two or more lines of force is in an apt condition for that action which
may be considered as equivalent to a lateral vibration; whereas a uniform
medium, like the aether, does not appear apt, or more apt than air or
water."

Is your 4 quarter-wave radials (monopole?), the same like Faraday's lines?
Two or more monopoles produces "polarised waves".

Two or more monopoles "is in an apt condition for that action which may be
considered as equivalent to a lateral vibration;".

Some textbooks say that Faraday suggested the transverse (angular)
wibrations.
Did he?
S*

206. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 16:07:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c40jk6tcurkid4qm6okm6u8h8k0l0434jq@4ax.com>
Source record: 5857

On Wed, 2 Feb 2011 09:35:38 +0100, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>This is clearly due to the fact that the external body of the trap (an aluminuim
>can about 2 feet long), which contains two coils resonated at different
>frequencies by means of built-in capacitors, is effectively part of the antenna
>radiating element. So, the trap is a bipole not only comprising lumped elements,
>and that is the reason why it cannot be inverted.

Hi Antonio,

No, in fact.

You clearly state in the first sentence the reason why.

The external body renders an asymmetry. The two elements it separates
are also non-symmetrical (both physically and electrically).

This is NOT a lumped circuit exercise that has gone bad.

73's
Richard Clark, KB7QHC

207. Wind survivability of HyGain AV-640?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 16:26:22 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E806A32E2C63VeebleFetzer@216.250.188.141>
Source record: 5858

HyGain [MFJ] claims 80mph, unguyed. Does anybody have any personal
experience to confirm or contradict this?

My somewhat smaller CushCraft R5 has stood unguyed (on a roof tripod)
for 20 years.

If I want to guy the 640, I'd have to move the tripod, which means more
holes in the roof.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

208. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 16:59:10 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <4e378843-089b-47e1-94e5-71e49810dca7@q7g2000vbd.googlegroups.com>
Source record: 5859

On Feb 2, 3:42 am, "Antonio Vernucci" <vernu...@tin.it> wrote:
> Tom,
>
> the story began when, a few days ago, I was going to replace a trap of my HF
> yagi. Not to make mistakes, I consulted the antenna assembly manual where I
> found a big banner: do not invert traps otherwise the antenna will not work.
>
> So, I thought, this is a case in which a bipole cannot be inverted.
>
> This is clearly due to the fact that the external body of the trap (an aluminuim
> can about 2 feet long), which contains two coils resonated at different
> frequencies by means of built-in capacitors, is effectively part of the antenna
> radiating element. So, the trap is a bipole not only comprising lumped elements,
> and that is the reason why it cannot be inverted.
>
> So, as K1TTT has pointed out, a bipole can be inverted without consequences only
> if it has only 2 ports, has only passive linear components, and is small enough
> to be considered a lumped element.
>
> 73
>
> Tony I0JX
> Rome, Italy

A bipole is symmetrical, obviously the internal circuity of the trap
is not symmetrical .

Jimmie

209. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 18:14:58 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d499f23$0$1357$4fafbaef@reader2.news.tin.it>
Source record: 5860

A bipole is symmetrical, obviously the internal circuity of the trap
is not symmetrical .

Jimmie, that is not the point.

- if the bipole is made of lumped components, then it can be freely reversed
without consequences, independently of whether it is symmetrical or asymmetrical

- a trap, which instead contains a distributed element (that is the radiating
trap body), can be freely reversed without consequences only if it is
symmetrical (which is not my case).

73

Tony I0JX

210. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 19:06:20 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <46a493d0-508f-4917-ad8b-a2022d9c5755@m13g2000yqb.googlegroups.com>
Source record: 5861

Hello Tony,

On 2 feb, 19:14, "Antonio Vernucci" <vernu...@tin.it> wrote:
> A bipole is symmetrical, obviously the internal circuity of the trap
> is not symmetrical .
>
> Jimmie, that is not the point.
>

At some frequency, everything becomes a distributed component, it
depends on size/lambda ratio and application. Many distributed
components can be modelled based on theoretical lumped components
(with sufficient accuracy), but a ground for modelling stray
capacitance is frequently required.

True lumped component behaviour, in my opinion, only applies to
networks with size=0.

> - if the bipole is made of lumped components, then it can be freely reversed
> without consequences, independently of whether it is symmetrical or
> asymmetrical

What do you define as "lumped component"?

> - a trap, which instead contains a distributed element (that is the radiating
> trap body), can be freely reversed without consequences only if it is
> symmetrical (which is not my case).
>

I agree on the above.

>
> 73
>
> Tony I0JX

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

211. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 19:28:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <38ee7b4a-672a-4c63-a042-83d677864a6d@l18g2000yqm.googlegroups.com>
Source record: 5862

On Feb 2, 3:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Wimpie" <wimabc...@tetech.nl> napisal w
wiadomoscinews:f0cffa37-2d75-4c66-84ef-b488ee8b7b31@24g2000yqa.googlegroups.com...
>
> > On 2 feb, 09:37, "Antonio Vernucci" <vernu...@tin.it> wrote:
>
> > For the limitation on lumped circuit approach, it is not important
> > whether or not it contributes to the overall radiation of a
> > structure. When you make a floating ground out of 4 quarter-wave
> > radials (monopole?), this structure has minor influence on the far
> > field pattern of the quarter wave (or better half wave) radiator above
> > it.
>
> Inhttp://www.padrak.com/ine/FARADAY1.html Faraday wrote:
>
> "The view which I am so bold to put forth considers, therefore, radiation as
> a kind of species of vibration in the lines of force which are known to
> connect particles and also masses of matter together. It endeavors to
> dismiss the aether, but not the vibration. The kind of vibration which, I
> believe, can alone account for the wonderful, varied, and beautiful
> phaenomena of polarization, is not the same as that which occurs on the
> surface of disturbed water, or the waves of sound in gases or liquids, for
> the vibrations in these cases are direct, or to and from the centre of
> action, whereas the former are lateral. It seems to me, that the resultant
> of two or more lines of force is in an apt condition for that action which
> may be considered as equivalent to a lateral vibration; whereas a uniform
> medium, like the aether, does not appear apt, or more apt than air or
> water."

I hope you can read what you quoted above and understand it... note
specifically:

> It endeavors to
> dismiss the aether, but not the vibration.

so with this he has decided there is NO aether!

> is not the same as that which occurs on the
> surface of disturbed water, or the waves of sound in gases or liquids,

so all the comparisons to water waves or sound waves are NOT correct!

> equivalent to a lateral vibration

NOT longitudinal!

so by these statements he has said that electromagnetic waves ARE NOT caused by an aether, and ARE lateral, NOT longitudinal... and CAN NOT be compared to sound or water vibrations!

212. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 19:33:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2702924f-5590-40b5-aadf-207fb2e41257@d1g2000yqb.googlegroups.com>
Source record: 5863

On Feb 2, 7:06 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Hello Tony,
>
> On 2 feb, 19:14, "Antonio Vernucci" <vernu...@tin.it> wrote:
>
> > A bipole is symmetrical, obviously the internal circuity of the trap
> > is not symmetrical .
>
> > Jimmie, that is not the point.
>
> At some frequency, everything becomes a distributed component, it
> depends on size/lambda ratio and application. Many distributed
> components can be modelled based on theoretical lumped components
> (with sufficient accuracy), but a ground for modelling stray
> capacitance is frequently required.
>
> True lumped component behaviour, in my opinion, only applies to
> networks with size=0.

'True' or theoretical versus 'practical' is a very important
distinction that is, or at least was, taught in engineering classes.
it is very important to know when you can apply the practical
simplifications that allow you to do design work without worrying
about insignificant phenomena in the problem domain you are working
in... so if i am designing an HF antenna I know that objects below a
given size can be safely ignored, but if i'm doing a microwave design
i have to take into account much smaller objects.

213. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 19:53:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d49b654$0$2459$65785112@news.neostrada.pl>
Source record: 5864

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:38ee7b4a-672a-4c63-a042-83d677864a6d@l18g2000yqm.googlegroups.com...
On Feb 2, 3:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Inhttp://www.padrak.com/ine/FARADAY1.html Faraday wrote:
>
>> "The view which I am so bold to put forth considers, therefore, radiation
>> as
> a kind of species of vibration in the lines of force which are known to
> connect particles and also masses of matter together. It endeavors to
> dismiss the aether, but not the vibration. The kind of vibration which, I
> believe, can alone account for the wonderful, varied, and beautiful
> phaenomena of polarization, is not the same as that which occurs on the
> surface of disturbed water, or the waves of sound in gases or liquids, for
> the vibrations in these cases are direct, or to and from the centre of
> action, whereas the former are lateral. It seems to me, that the resultant
> of two or more lines of force is in an apt condition for that action which
> may be considered as equivalent to a lateral vibration; whereas a uniform
> medium, like the aether, does not appear apt, or more apt than air or
> water."

>I hope you can read what you quoted above and understand it... note
specifically:

>> It endeavors to
>> dismiss the aether, but not the vibration.

>so with this he has decided there is NO aether!

Ik such words: "I suppose we may compare together the matter of the aether
and ordinary matter (as, for instance, the copper of the wire through which
the electricity is conducted), and consider them as alike in their essential
constitution; i.e. either as both composed of little nuclei, considered in
the abstract as matter"

In your antennas and in the space are free electrons. We do not need a
mystery aether.

>> is not the same as that which occurs on the
>> surface of disturbed water, or the waves of sound in gases or liquids,

>so all the comparisons to water waves or sound waves are NOT correct!

You know that the dipole works like the two loudspeakers.

>> equivalent to a lateral vibration

>NOT longitudinal!

And not traversal. The waves radiated from the two ends of a dipole I call "coupled".

>so by these statements he has said that electromagnetic waves ARE NOT caused by an aether, and ARE lateral, NOT longitudinal... and CAN NOT be compared to sound or water vibrations!

Faraday was great. In the Nature no natural acoustic dipoles. For him was obvious that must be something equivalent to a lateral vibration.
As you know it is the two or more sources of pressure waves properly phased.

Are electrons jumping off from your transmitting antennas?
In copper and in space are the same "little nuclei, considered in the abstract as matter". Electrons have mass.

Biot-Savart's magnetic whirl is massles.
S*

214. Re: World Peace ! The world in all over the world !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 20:30:29 UTC
From: Speagle <none@none.org>
Message-ID: <iicet5$a90$1@news.albasani.net>
Source record: 5865

On Sat, 29 Jan 2011 19:21:18 -0600, tom wrote:

> On 1/28/2011 5:56 PM, ExpenseNeox wrote:
>> World Peace ! Let's treat each other good ! All happiness and health !
>> I apologize for the message, please remove.
>>
>>
>>
>>
>>
> What a strange person.

Definitely not a republican

215. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 20:44:17 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <44e99330-9c27-4ca4-a8fb-c0106cf85878@r16g2000yql.googlegroups.com>
Source record: 5866

```
On Feb 2, 7:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>  "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:38ee7b4a-672a-4c63-a042-83d677864a6d@l18g2000yqm.googlegroups.com...
> On Feb 2, 3:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> Inhttp://www.padrak.com/ine/FARADAY1.htmlFaraday wrote:
>
> >> "The view which I am so bold to put forth considers, therefore, radiation
> >> as
> > a kind of species of vibration in the lines of force which are known to
> > connect particles and also masses of matter together. It endeavors to
> > dismiss the aether, but not the vibration. The kind of vibration which, I
> > believe, can alone account for the wonderful, varied, and beautiful
> > phaenomena of polarization, is not the same as that which occurs on the
> > surface of disturbed water, or the waves of sound in gases or liquids, for
> > the vibrations in these cases are direct, or to and from the centre of
> > action, whereas the former are lateral. It seems to me, that the resultant
> > of two or more lines of force is in an apt condition for that action which
> > may be considered as equivalent to a lateral vibration; whereas a uniform
> > medium, like the aether, does not appear apt, or more apt than air or
> > water."
> >I hope you can read what you quoted above and understand it... note
>
> specifically:
>
> >> It endeavors to
> >> dismiss the aether, but not the vibration.
> >so with this he has decided there is NO aether!
>
> Ik such words: "I suppose we may compare together the matter of the aether
> and ordinary matter (as, for instance, the copper of the wire through which
> the electricity is conducted), and consider them as alike in their essential
> constitution; i.e. either as both composed of little nuclei, considered in
> the abstract as matter"
>
> In your antennas and in the space are free electrons. We do not need a
> mystery aether.
>
> >> is not the same as that which occurs on the
> >> surface of disturbed water, or the waves of sound in gases or liquids,
```

> >so all the comparisons to water waves or sound waves are NOT correct!
>
> You know that the dipole works like the two loudspeakers.
>
> >> equivalent to a lateral vibration
> >NOT longitudinal!
>
> And not traversal. The waves radiated from the two ends of a dipole I call
> "coupled".
>
> >so by these statements he has said that electromagnetic waves ARE NOT
>
> caused by an aether, and ARE lateral, NOT longitudinal... and CAN NOT
> be compared to sound or water vibrations!
>
> Faraday was great. In the Nature no natural acoustic dipoles. For him was
> obvious that must be something equivalent to a lateral vibration.
> As you know it is the two or more sources of pressure waves properly phased.
>
> Are electrons jumping off from your transmitting antennas?
> In copper and in space are the same "little nuclei, considered in the
> abstract as matter". Electrons have mass.
>
> Biot-Savart's magnetic whirl is massles.
> S*

no, electrons don't jump off my antennas, and there can not be free
electrons in space or they would all repel each other and fly away.
and since they have mass and other detectable properties we would
easily be able to measure them if they were conducting electromagnetic
waves, such a simple thing as speed of the wave would be VERY
different than what we measure now.

216. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-02 22:57:13 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <f17ae77b-ce1a-4a76-9353-7916a01b36b0@l18g2000yqm.googlegroups.com>
Source record: 5867

On Feb 2, 12:42 am, "Antonio Vernucci" <vernu...@tin.it> wrote:
> Tom,
>
> the story began when, a few days ago, I was going to replace a trap of my HF
> yagi. Not to make mistakes, I consulted the antenna assembly manual where I
> found a big banner: do not invert traps otherwise the antenna will not work.
>
> So, I thought, this is a case in which a bipole cannot be inverted.
>
> This is clearly due to the fact that the external body of the trap (an aluminuim
> can about 2 feet long), which contains two coils resonated at different
> frequencies by means of built-in capacitors, is effectively part of the antenna
> radiating element. So, the trap is a bipole not only comprising lumped elements,
> and that is the reason why it cannot be inverted.
>
> So, as K1TTT has pointed out, a bipole can be inverted without consequences only
> if it has only 2 ports, has only passive linear components, and is small enough
> to be considered a lumped element.
>
> 73
>
> Tony I0JX
> Rome, Italy

As I see it, it has nothing to do with being small enough to be considered a lumped element. Instead, it has to do with coupling between the network elements and the outside world. Clearly your trap is coupled to the outside world. Clearly the series LC in my example is coupled to its surroundings. In such cases, you're NOT dealing with a two-terminal network: there is a path for current other than the two terminals. You can put as many transmission lines in your network as you wish, and as long as they don't have coupling to the rest of the universe except through the two closely-spaced terminals, there will be no difference in behaviour if you reverse the terminals. If you can show a valid counter-example, you've proven a whole lot of textbooks wrong...

I suppose equivalently, if you decouple your measurement from the rest of the universe, you'll get the same result. Typical broadband directional couplers (of the sort used in S-parameter test sets) have good decoupling, to be able to separate excitation from return power.

Cheers,
Tom

217. Re: World Peace ! The world in all over the world !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-03 01:09:04 UTC
From: tom <news4792@taring.org>
Message-ID: <4d4a002d$0$87580$8046368a@newsreader.iphouse.net>
Source record: 5868

On 2/2/2011 2:30 PM, Speagle wrote:
> On Sat, 29 Jan 2011 19:21:18 -0600, tom wrote:
>
>> On 1/28/2011 5:56 PM, ExpenseNeox wrote:
>>> World Peace ! Let's treat each other good ! All happiness and health !
>>> I apologize for the message, please remove.
>>>
>>>
>>>
>>>
>>>
>> What a strange person.
>
> Definitely not a republican

Correct, he's nuts.

218. My first antenna "design"

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-03 01:48:45 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iid1hv$16i$1@news.eternal-september.org>
Source record: 5869

I had an idea that seems to work.

I like inherently DC-shorted antennas because of an experience I had about 30 years ago with thunderstorms. Using a home-brew quarter-wave vertical on 2 meters, my receiver got completely blocked for about 10 seconds by a lightning stroke a few miles from my location. I was terrified that I had lost the front end of the IC-2AT. Fortunately, I did not, but that experience apparently imprinted on my so-called brain. I know that I could add a shunt inductor across the terminals to prevent this, but I prefer a natural or inherent solution.

The folded vertical unipole is inherently "grounded". (I use quotes here because what I really mean is that the antenna input is DC-connected to the common.) So, I like that antenna. However, its terminal impedance is about 4 times that of a simple ground plane.

Well, I noticed that the terminal impedance of a simple quarter-wave unipole was about 30 or so ohms until the radials are sloped downward at about 45 degrees which raises the terminal impedance to about 50 ohms.

In my case, I needed to lower the terminal impedance (about 120 to 140 ohms) of the folded antenna. Well, what if I sloped the radials *upward* approximately 45 degrees to lower the terminal impedance to about 50 ohms?

It worked, and EZNEC says that the radiation pattern is pretty much like the usual ground plane vertical.

I just thought I would share this info with the group. I also have a configuration for a full-wave loop (inherently at DC common) on 70 cm that has an infinite balun thanks to Walter Maxwell's book Reflections II, page 22-10. How I manage to get the terminal impedance to 50 ohms is interesting, but I will save that for another post.

Cheers,
John KD5YI

219. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-03 04:31:47 UTC
From: "Myron A. Calhoun" <mcalhoun@sdf.org>
Message-ID: <iidb3j$7mv$1@droog.sdf-eu.org>
Source record: 5880

In my first EE class, 'way back in the fall of 1962, the instructor
walked in and said "We shall study LLFPB", by which he meant

Lumped, Linear, Finite, Passive, and BILATERAL

so I'd have to conclude that your bipole is one or more of
not lumped and/or
not linear and/or
not finite and/or
not passive.

<Yesterday, while repairing my antenna, something came to my mind I had never
<focused on before.

<Let us consider a bipole, that is a "black box" having TWO terminals and
<including plain passive elements only (like capacitors, inductors, ... , no
<diodes or other special devices), arranged the way you prefer, it does not
<matter.

<Instead of directly telling which it is, just for fun I wonder whether anyone
<can figure out a case in which a bipole may not be reversed without
<consequences. Not difficult, but it anyway requires some thinking.
--
-- Myron A. Calhoun.
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm Safety
Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH) license

220. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-03 08:42:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4a6a93$0$2445$65785112@news.neostrada.pl>
Source record: 5870

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:44e99330-9c27-4ca4-a8fb-c0106cf85878@r16g2000yql.googlegroups.com...
On Feb 2, 7:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> In such words: "I suppose we may compare together the matter of the
>> aether
> and ordinary matter (as, for instance, the copper of the wire through
> which
> the electricity is conducted), and consider them as alike in their
> essential
> constitution; i.e. either as both composed of little nuclei, considered in
> the abstract as matter" (Faraday).
>
>> In your antennas and in the space are free electrons. We do not need a
> mystery aether.
>
>> Are electrons jumping off from your transmitting antennas?
> In copper and in space are the same "little nuclei, considered in the
> abstract as matter". Electrons have mass.
>

>no, electrons don't jump off my antennas,

Tesla did the electron gun from an antenna. Why yours are different?

>and there can not be free
electrons in space or they would all repel each other and fly away.

They do. The rare plasma is produced by the Sun. After condensation they
come back to stars.

>and since they have mass and other detectable properties we would
easily be able to measure them if they were conducting electromagnetic
waves,

The electron gun produces the catode rays. You are able to measure them. Put
on a glas bottle with the anticatode on the top of CB radio antenna.
Your current meter measures the DC ground current.

>such a simple thing as speed of the wave would be VERY
different than what we measure now.

Speed of the electric waves is and will be the same for ever. Of course for
the same temperature.

Faraday stated that must be: "that action which may be considered as
equivalent to a lateral vibration; "

The two (or more) sources give the same result like mystery TEM.

Are you better than Faraday?
S*

221. Re: Quarter-wave matching coaxial cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-03 22:38:23 UTC
From: eddy <eddy.790ebf9@radiobanter.com>
Message-ID: <eddy.790ebf9@radiobanter.com>
Source record: 5872

Cecil Moore;731359 Wrote:
> On Feb 1, 2:05*am, eddy eddy.78da...@radiobanter.com wrote:-
> ... which of the three methods are considered more reliable ?-
>
> I assume you are trying to configure a 1/4WL 75 ohm piece of coax to
> interface to your ~100 ohm loop. What I would do is cut it a little
> longer than 1/4WL with the velocity factor taken into account. Connect
> it to the antenna and trim for lowest SWR on the MFJ258B. Why bother
> with an exact 1/4WL when you can trim for lowest SWR using the actual
> antenna?

You're right, trimming is the easiest method to matching a delta loop.
Anyway I hope my Analyzer could help me to get 1/2 wave coax and some
sections for a phasing system

--
eddy

222. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-03 23:00:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4e6ba69f-0a70-4f08-b55e-a72362bc58ee@4g2000yqo.googlegroups.com>
Source record: 5871

On Feb 3, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:44e99330-9c27-4ca4-a8fb-c0106cf85878@r16g2000yql.googlegroups.com...
> On Feb 2, 7:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> In such words: "I suppose we may compare together the matter of the
> >> aether
> > > and ordinary matter (as, for instance, the copper of the wire through
> > > which
> > > the electricity is conducted), and consider them as alike in their
> > > essential
> > > constitution; i.e. either as both composed of little nuclei, considered in
> > > the abstract as matter" (Faraday).
>
> >> In your antennas and in the space are free electrons. We do not need a
> > > mystery aether.
>
> >> Are electrons jumping off from your transmitting antennas?
> > > In copper and in space are the same "little nuclei, considered in the
> > > abstract as matter". Electrons have mass.
>
> >no, electrons don't jump off my antennas,
>
> Tesla did the electron gun from an antenna. Why yours are different?
>
> >and there can not be free
>
> electrons in space or they would all repel each other and fly away.
>
> They do. The rare plasma is produced by the Sun. After condensation they
> come back to stars.
>
> >and since they have mass and other detectable properties we would
>
> easily be able to measure them if they were conducting electromagnetic
> waves,
>
> The electron gun produces the catode rays. You are able to measure them. Put
> on a glas bottle with the anticatode on the top of CB radio antenna.
> Your current meter measures the DC ground current.

>
> >such a simple thing as speed of the wave would be VERY
>
> different than what we measure now.
>
> Speed of the electric waves is and will be the same for ever. Of course for
> the same temperature.
>
> Faraday stated that must be: "that action which may be considered as
> equivalent to a lateral vibration; "
>
> The two (or more) sources give the same result like mystery TEM.
>
> Are you better than Faraday?
> S*

no, i am better than you at reading faraday.

223. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-04 08:04:36 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4bb318$0$2506$65785112@news.neostrada.pl>
Source record: 5873

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:4e6ba69f-0a70-4f08-b55e-a72362bc58ee@4g2000yqo.googlegroups.com...
On Feb 3, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Faraday stated that must be: "that action which may be considered as
> equivalent to a lateral vibration; "
>
>> The two (or more) sources give the same result like mystery TEM.
>
>> Are you better than Faraday?
> S*

>no, i am better than you at reading faraday.

Do you need " the action which may be considered as equivalent to a lateral
vibration; "?
Or you are fine with TEM?
S*

224. Re: Quarter-wave matching coaxial cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-04 09:04:37 UTC
From: nm5k@wt.net
Message-ID: <8a958d1c-ce08-41c3-9dbe-eba0c1434bdb@glegroupsg2000goo.googlegroups.com>
Source record: 5874

The ones I've used seemed so broad, trimming really didn't
seem to be needed. It's kind of like using a matching device
with a mobile antenna. For most, it will be left at a single
setting, even for a whole band, and any tweaking done will be
at the antenna. I'll usually cut one to the usual length and
throw it up. IE: for 40m, I just cut 22 feet and I'm usually
done with it. They don't seem that critical.
I have an old puter program that would calculate those for most
any situation, but it must be on one of the drives I'm not using
at the moment.

225. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-04 11:31:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ae13f466-71ee-4aab-b995-ba8d05faf306@u4g2000yqi.googlegroups.com>
Source record: 5875

On Feb 4, 8:04 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:4e6ba69f-0a70-4f08-b55e-a72362bc58ee@4g2000yqo.googlegroups.com...
> On Feb 3, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Faraday stated that must be: "that action which may be considered as
> > equivalent to a lateral vibration; "
>
> >> The two (or more) sources give the same result like mystery TEM.
>
> >> Are you better than Faraday?
> > S*
> >no, i am better than you at reading faraday.
>
> Do you need " the action which may be considered as equivalent to a lateral
> vibration; "?
> Or you are fine with TEM?
> S*

i am fine with the transverse waves described by maxwell's equations
that don't require any aether.

226. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-04 18:00:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4c3edf$0$2446$65785112@news.neostrada.pl>
Source record: 5876
Body handling: HTML body converted to readable text

Uzytkownik "K1TTT" napisal w wiadomosci
news:ae13f466-71ee-4aab-b995-ba8d05faf306@u4g2000yqi.googlegroups.com...
On Feb 4, 8:04 am, "Szczepan Bialek" wrote:
>>
> >> Faraday stated that must be: "that action which may be considered as
> > equivalent to a lateral vibration; "
>
> >> The two (or more) sources give the same result like mystery TEM.
>
> >> Are you better than Faraday?
> > S*
> >no, i am better than you at reading faraday.
>
> Do you need " the action which may be considered as equivalent to a
> lateral
> vibration; "?
> Or you are fine with TEM?
> S*

227. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-04 20:09:17 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ea9ffc95-41eb-471c-a748-913f4e75a3ca@o32g2000prb.googlegroups.com>
Source record: 5877
Body handling: HTML body converted to readable text

On Feb 4, 6:00 pm, "Szczepan Bialek" wrote:
> Uzytkownik "K1TTT" napisal w
wiadomoscinews:ae13f466-71ee-4aab-b995-ba8d05faf306@u4g2000yqi.googlegroups.com...
> On Feb 4, 8:04 am, "Szczepan Bialek" wrote:
>
>
>
> > >> Faraday stated that must be: "that action which may be considered as
> > > equivalent to a lateral vibration; "
>
> > >> The two (or more) sources give the same result like mystery TEM.
>
> > >> Are you better than Faraday?
> > > S*
> > >no, i am better than you at reading faraday.
>
> > Do you need " the action which may be considered as equivalent to a
> > lateral
> > vibration; "?
> > Or you are fine with TEM?
> > S*
>
> that don't require any aether.
>
> Maxwell equations are for Heaviside
aether:http://www-groups.dcs.st-and.ac.uk/~history/Biographies/Heaviside.html
> "I saw that it was great, greater, and greatest, with prodigious
> possibilities in its power. I was determined to master the book... It took
> me several years before I could understand as much as I possible could. Then
> I set Maxwell aside and followed my own course. And I progressed much more
> quickly.
> Despite this hatred of rigour, Heaviside was able to greatly simplify
> Maxwell's 20 equations in 20 variables, replacing them by four equations in
> two variables. Today we call these 'Maxwell's equations' forgetting that
> they are in fact 'Heaviside's equations'."
>
> Heaviside equations have nothing common with Faraday and Maxwell.
>
> I prefer the Faraday idea - without any aether.
> S*

it all depends on who is writing history:

"The four partial differential equations, now known as Maxwell's equations, first appeared in fully developed form in Electricity and Magnetism (1873). Most of this work was done by Maxwell at Glenlair during the period between holding his London post and his taking up the Cavendish chair. They are one of the great achievements of 19th-century mathematics."

http://www-groups.dcs.st-and.ac.uk/~history/Biographies/Maxwell.html

228. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-04 21:17:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <eapok6dncmrc5vpt3tnl6701aqrlppbo29@4ax.com>
Source record: 5878

On Fri, 4 Feb 2011 12:09:17 -0800 (PST), K1TTT <k1ttt@arrl.net> wrote:

>it all depends on who is writing history:
>
>"The four partial differential equations, now known as Maxwell's
>equations, first appeared in fully developed form in Electricity and
>Magnetism (1873). Most of this work was done by Maxwell at Glenlair
>during the period between holding his London post and his taking up
>the Cavendish chair. They are one of the great achievements of 19th-
>century mathematics."
>
>http://www-groups.dcs.st-and.ac.uk/~history/Biographies/Maxwell.html

Yes, indeed it does matter who is "writing history." The quotation
above is, in fact, quite wrong.

"Maxwell's formulation of electromagnetism consisted
of 20 equations in 20 variables. Heaviside employed
the curl and divergence operators of the vector
calculus to reformulate these 20 equations into
four equations in four variables (B, E, J, and rho),
the form by which they have been known ever
since (see Maxwell's equations)."

This "writing of history" above comes from:
http://en.wikipedia.org/wiki/Heaviside
where the embedded link to (see Maxwell's equations) is:
http://en.wikipedia.org/wiki/Maxwell%27s_equations
which then "RE-WRITES HISTORY" to state that the forms of the four
equations (formulated by Heaviside) were original to Maxwell (whose
work of 20 are ignored).

This, of course, will have no effect on the Soviet-inspired
revisionist polemic that un-informs this side thread from S* our
amateur doctrinaire.

* * * * * *

As an experiment at translate.google.com, I entered that last
paragraph above, translated it into Polish, and then took the Polish
output and ran it through (in reverse as it were) to see what that
looked like in English:

"This, of course, will not affect the relationship inspired
revisionist polemic that does not inform the thread-by-S * our
doctrinaire enthusiasts."

Curious how the "Soviet" was airbrushed out of translation.

So through carefully crafting the statement to preserve its piquancy,
I amended it to:

This, of course, will have no effect on the Stalinist-inspired
revisionist polemic that un-informs this side thread from S* our
amateur doctrinaire.

English-Polish-English renders:

"This, of course, will have no impact on the Stalinist-inspired
revisionist polemic that does not inform the thread-by-S * our
doctrinaire enthusiasts."

Aside from the last plural in place of singular, quite faithful to the
intended irony.

* * * * * * *

I wasn't going to try to push Maxwell's 20 equations through
translate.google.com to see if Heaviside emerged.

73's
Richard Clark, KB7QHC

229. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-04 22:17:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <be904f32-ee1d-418b-9b41-5973c54c90eb@d19g2000yql.googlegroups.com>
Source record: 5879

On Feb 4, 9:17 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 4 Feb 2011 12:09:17 -0800 (PST), K1TTT <k1...@arrl.net> wrote:
> >it all depends on who is writing history:
>
> >"The four partial differential equations, now known as Maxwell's
> >equations, first appeared in fully developed form in Electricity and
> >Magnetism (1873). Most of this work was done by Maxwell at Glenlair
> >during the period between holding his London post and his taking up
> >the Cavendish chair. They are one of the great achievements of 19th-
> >century mathematics."
>
> >http://www-groups.dcs.st-and.ac.uk/~history/Biographies/Maxwell.html
>
> Yes, indeed it does matter who is "writing history." The quotation
> above is, in fact, quite wrong.
>
>   "Maxwell's formulation of electromagnetism consisted
>   of 20 equations in 20 variables. Heaviside employed
>   the curl and divergence operators of the vector
>   calculus to reformulate these 20 equations into
>   four equations in four variables (B, E, J, and rho),
>   the form by which they have been known ever
>   since (see Maxwell's equations)."
>
> This "writing of history" above comes from:http://en.wikipedia.org/wiki/Heaviside
> where the embedded link to (see Maxwell's equations)
is:http://en.wikipedia.org/wiki/Maxwell%27s_equations
> which then "RE-WRITES HISTORY" to state that the forms of the four
> equations (formulated by Heaviside) were original to Maxwell (whose
> work of 20 are ignored).
>
> This, of course, will have no effect on the Soviet-inspired
> revisionist polemic that un-informs this side thread from S* our
> amateur doctrinaire.
>
> * * * * * *
>
> As an experiment at translate.google.com, I entered that last
> paragraph above, translated it into Polish, and then took the Polish
> output and ran it through (in reverse as it were) to see what that
> looked like in English:
>
> "This, of course, will not affect the relationship inspired
> revisionist polemic that does not inform the thread-by-S * our

> doctrinaire enthusiasts."
>
> Curious how the "Soviet" was airbrushed out of translation.
>
> So through carefully crafting the statement to preserve its piquancy,
> I amended it to:
>
> This, of course, will have no effect on the Stalinist-inspired
> revisionist polemic that un-informs this side thread from S* our
> amateur doctrinaire.
>
> English-Polish-English renders:
>
> "This, of course, will have no impact on the Stalinist-inspired
> revisionist polemic that does not inform the thread-by-S * our
> doctrinaire enthusiasts."
>
> Aside from the last plural in place of singular, quite faithful to the
> intended irony.
>
> * * * * * * *
>
> I wasn't going to try to push Maxwell's 20 equations through
> translate.google.com to see if Heaviside emerged.
>
> 73's
> Richard Clark, KB7QHC

i thought that rather than going to wikipedia or somewhere else it was
more appropriate to quote from the maxwell bio on the same website
mr.B used to get his quote.

230. trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 01:24:11 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <ak9pk6dojgpgmckgd4krmlork1njkr481v@4ax.com>
Source record: 5881

looking at putting a trunk lip mount on my hatchback. i have a 108"
whip and am worried that, if i hit anything, it'll damage the lip of
the hatchback. any comments? thanks all

231. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 01:31:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <u89pk6h54h100lo96fs2h8mjog6fhfdean@4ax.com>
Source record: 5882

On Fri, 4 Feb 2011 14:17:00 -0800 (PST), K1TTT <k1ttt@arrl.net> wrote:

>
>i thought that rather than going to wikipedia or somewhere else it was
>more appropriate to quote from the maxwell bio on the same website
>mr.B used to get his quote.

This only works for a rational discussion.

S* is only interested in pursuing agitprop, the failure of a decandent
counter-cultural ideology.

73's
Richard Clark, KB7QHC

232. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 09:03:28 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4d1264$0$2460$65785112@news.neostrada.pl>
Source record: 5883

Uzytkownik "Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:u89pk6h54h100lo96fs2h8mjog6fhfdean@4ax.com...
> On Fri, 4 Feb 2011 14:17:00 -0800 (PST), K1TTT <k1ttt@arrl.net> wrote:
>
>>
>>i thought that rather than going to wikipedia or somewhere else it was
>>more appropriate to quote from the maxwell bio on the same website
>>mr.B used to get his quote.
>
> This only works for a rational discussion.
>
> S* is only interested in pursuing agitprop, the failure of a decandent
> counter-cultural ideology.

You wrote: "Yes, indeed it does matter who is "writing history." The
quotation
above is, in fact, quite wrong."

So the best approach is to take a glance into the original papers.
In Maxwell's model the magnetic lines are like the smoke rings. Nothing flow
along them.
In Heaviside's model there is the solenoidal flow.

It is not simplification. The both models are quite different.

But the both are a history.

Your radio waves travel in rare plasma. It is interesting that Faraday
predicted it.
S*

233. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 10:39:52 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <87aqk6547djb5et56unmg1goh8euraq3k5@4ax.com>
Source record: 5884

On Sat, 05 Feb 2011 07:32:07 +0000, Jim Higgins
<invalid@invalid.invalid> wrote:

>On Fri, 04 Feb 2011 20:24:11 -0500, bpuharic <wf3h@comcast.net> wrote:
>
>>looking at putting a trunk lip mount on my hatchback. i have a 108"
>>whip and am worried that, if i hit anything, it'll damage the lip of
>>the hatchback. any comments? thanks all
>
>
>If slight bending of the metal of the hatch is a concern, you probably
>don't want to attach a 108" whip to it. It will put quite a strain on
>th metal at highway speeds. I speak from experience. Mine was
>slightly bent from a Hustler whip much shorter than 108". The
>distortion was at the trailing edge of the mount, not at the lip of
>the hatch. Perhaps that suggests a solution to prevent the problem by
>spreading the load at this point.

yeah i think you're right. may have to drill holes...

thanks for the info

234. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 12:22:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <42b0e162-b096-4cb3-8166-d3423a6b2941@k30g2000yqb.googlegroups.com>
Source record: 5885

On Feb 5, 9:03 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Richard Clark" <kb7...@comcast.net> napisal w
wiadomoscinews:u89pk6h54h100lo96fs2h8mjog6fhfdean@4ax.com...
>
> > On Fri, 4 Feb 2011 14:17:00 -0800 (PST), K1TTT <k1...@arrl.net> wrote:
>
> >>i thought that rather than going to wikipedia or somewhere else it was
> >>more appropriate to quote from the maxwell bio on the same website
> >>mr.B used to get his quote.
>
> > This only works for a rational discussion.
>
> > S* is only interested in pursuing agitprop, the failure of a decandent
> > counter-cultural ideology.
> You wrote: "Yes, indeed it does matter who is "writing history." The
>
> quotation
> above is, in fact, quite wrong."
>
> So the best approach is to take a glance into the original papers.
> In Maxwell's model the magnetic lines are like the smoke rings. Nothing flow
> along them.
> In Heaviside's model there is the solenoidal flow.
>
> It is not simplification. The both models are quite different.
>
> But the both are a history.
>
> Your radio waves travel in rare plasma. It is interesting that Faraday
> predicted it.
> S*

they may travel through a rare plasma, but the rare plasma is not
needed for their propagation. they also travel through dense matter
like glass, but the glass is not needed for their propagation.

235. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 17:05:25 UTC
From: joe <none@domain.invalid>
Message-ID: <iijvkr$5ns$1@speranza.aioe.org>
Source record: 5886

bpuharic wrote:

> yeah i think you're right. may have to drill holes...
>
> thanks for the info
>

How about using a bicycle carrier and attaching the antenna to it? The
load would be better distributed.

236. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 17:18:21 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4d8660$0$2491$65785112@news.neostrada.pl>
Source record: 5887

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:42b0e162-b096-4cb3-8166-d3423a6b2941@k30g2000yqb.googlegroups.com...
On Feb 5, 9:03 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
"Richard Clark" <kb7...@comcast.net> napisal w
wiadomoscinews:u89pk6h54h100lo96fs2h8mjog6fhfdean@4ax.com...
>
>>> : "Yes, indeed it does matter who is "writing history." The quotation
>>> above is, in fact, quite wrong."
>
>> So the best approach is to take a glance into the original papers.
>> In Maxwell's model the magnetic lines are like the smoke rings. Nothing
>> flow
> along them.
>> In Heaviside's model there is the solenoidal flow.
>
>> It is not simplification. The both models are quite different.
>
>> But the both are a history.
>
>> Your radio waves travel in rare plasma. It is interesting that Faraday
> predicted it.
> S*

>they may travel through a rare plasma, but the rare plasma is not
needed for their propagation. they also travel through dense matter
like glass, but the glass is not needed for their propagation.

"The velocity of light through space is about 190,000 miles in a second; the
velocity of electricity is, by the experiments of Wheatstone, shown to be as
great as this,"

For this reason Faraday concluded: " "I suppose we may compare together the
matter of the aether
and ordinary matter (as, for instance, the copper of the wire through which
the electricity is conducted), and consider them as alike in their essential
constitution; i.e. either as both composed of little nuclei, considered in
the abstract as matter"

Everywhere are "nuclei" (electrons).

You simply do not read Faraday.

He also described a dipole: " For suppose two bodies, A B, distant from each
other and under mutual action, and therefore connected by lines of force,
and let us fix our attention upon one resultant of force, having an
invariable direction as regards space; if one of the bodies move in the

least degree right or left, or if its power be shifted for a moment within the mass (neither of these cases being difficult to realise if A and B be either electric or magnetic bodies), then an effect equivalent to a lateral disturbance will take place in the resultant upon which we are fixing our attention; for, either it will increase in force whilst the neighboring results are diminishing, or it will fall in force as they are increasing."

" if its power be shifted for a moment within the mass" = if electrons oscillate in a dipole.

Wimpie mentioned a monopole. Dipole = two monopole.

What does monopole radiate?

In your antennas and in the space are free electrons. We do not need a mystery TEM..
S*

237. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 17:30:37 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iik1g2$o4$1@news.eternal-september.org>
Source record: 5888

On 2/5/2011 11:18 AM, Szczepan Bialek wrote:

> Wimpie mentioned a monopole. Dipole = two monopole.
>
> What does monopole radiate?

Depends. If the monopole is pointed upwards, it radiates positive half cycles of RF. If pointed downwards, negative half cycles are radiated.

238. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 18:27:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d635b93e-4ba1-4be3-b6e9-c46749ead20d@o1g2000yqb.googlegroups.com>
Source record: 5889

On Feb 5, 5:30 pm, John - KD5YI <soph...@invalid.org> wrote:
> On 2/5/2011 11:18 AM, Szczepan Bialek wrote:
>
> > Wimpie mentioned a monopole. Dipole = two monopole.
>
> > What does monopole radiate?
>
> Depends. If the monopole is pointed upwards, it radiates positive half
> cycles of RF. If pointed downwards, negative half cycles are radiated.

what about if it is horizontal??? or as art prefers, tipped at some
angle??

239. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 18:29:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <57e4ecd3-6521-4b4d-9740-91641287e567@k22g2000yqh.googlegroups.com>
Source record: 5890

On Feb 5, 5:18 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:42b0e162-b096-4cb3-8166-d3423a6b2941@k30g2000yqb.googlegroups.com...
> On Feb 5, 9:03 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Richard Clark" <kb7...@comcast.net> napisal w
> wiadomoscinews:u89pk6h54h100lo96fs2h8mjog6fhfdean@4ax.com...
>
>
>
>
>
> >>> : "Yes, indeed it does matter who is "writing history." The quotation
> >>> above is, in fact, quite wrong."
>
> >> So the best approach is to take a glance into the original papers.
> >> In Maxwell's model the magnetic lines are like the smoke rings. Nothing
> >> flow
> > along them.
> >> In Heaviside's model there is the solenoidal flow.
>
> >> It is not simplification. The both models are quite different.
>
> >> But the both are a history.
>
> >> Your radio waves travel in rare plasma. It is interesting that Faraday
> > predicted it.
> > S*
> >they may travel through a rare plasma, but the rare plasma is not
>
> needed for their propagation. they also travel through dense matter
> like glass, but the glass is not needed for their propagation.
>
> "The velocity of light through space is about 190,000 miles in a second; the
> velocity of electricity is, by the experiments of Wheatstone, shown to be as
> great as this,"
>
> For this reason Faraday concluded: " "I suppose we may compare together the
> matter of the aether
> and ordinary matter (as, for instance, the copper of the wire through which
> the electricity is conducted), and consider them as alike in their essential
> constitution; i.e. either as both composed of little nuclei, considered in
> the abstract as matter"
>
> Everywhere are "nuclei" (electrons).

>
> You simply do not read Faraday.
>
> He also described a dipole: " For suppose two bodies, A B, distant from each
> other and under mutual action, and therefore connected by lines of force,
> and let us fix our attention upon one resultant of force, having an
> invariable direction as regards space; if one of the bodies move in the
> least degree right or left, or if its power be shifted for a moment within
> the mass (neither of these cases being difficult to realise if A and B be
> either electric or magnetic bodies), then an effect equivalent to a lateral
> disturbance will take place in the resultant upon which we are fixing our
> attention; for, either it will increase in force whilst the neighboring
> results are diminishing, or it will fall in force as they are increasing."
>
> " if its power be shifted for a moment within the mass" = if electrons
> oscillate in a dipole.
>
> Wimpie mentioned a monopole. Dipole = two monopole.
>
> What does monopole radiate?
>
> In your antennas and in the space are free electrons. We do not need a
> mystery TEM..
> S*

Faraday was proven wrong many times by much later experiments... the
same for all other aether models. EM waves do not need aether or your
free electrons.

240. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 19:40:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vp8rk6l7d0f4nj2kupb1qtha3s1fh32l8u@4ax.com>
Source record: 5891

On Sat, 5 Feb 2011 10:29:34 -0800 (PST), K1TTT <k1ttt@arrl.net> wrote:

>Faraday was proven wrong many times by much later experiments.

It would be interesting to see one such example.

Faraday's classic "The Chemical History of a Candle" may be expressed in archaic language (not really that archaic once you get into the vernacular), but it is an example of extremely clear analysis and instruction. There is absolutely nothing wrong anywhere in that recital.

Faraday examined the properties of induction - action at a distance - in equally archaic terms, but with scientifically rigorous methods. The archaic language was confined to terms of invention. Phlogiston, as both a term and concept, was an invented word that was current during his life.

I am sure he used the Phlogiston in correspondence with those who understood its context. However, the nature of that correspondence reveals that neither party "believed" in it as a force of nature, and merely used the term and concept as a touchstone insofar as it was a focus of debate.

In other words, for them the debate was over and Phlogiston was an intellectual dead-end, but the focus of the underlying question it was supposed to have answered was a question still being discussed.

73's
Richard Clark, KB7QHC

241. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-05 23:25:44 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iikm9t$fn2$1@news.eternal-september.org>
Source record: 5892

On 2/5/2011 12:27 PM, K1TTT wrote:
> On Feb 5, 5:30 pm, John - KD5YI<soph...@invalid.org> wrote:
>> On 2/5/2011 11:18 AM, Szczepan Bialek wrote:
>>
>>> Wimpie mentioned a monopole. Dipole = two monopole.
>>
>>> What does monopole radiate?
>>
>> Depends. If the monopole is pointed upwards, it radiates positive half
>> cycles of RF. If pointed downwards, negative half cycles are radiated.
>
> what about if it is horizontal??? or as art prefers, tipped at some
> angle??

Depends on which way it's pointing. If North, positive half cycles go West and negative half cycles go East.

If it is tipped to an undefined angle, the positive and negative half cycles get confused and the electrons refuse to jump off. This makes it good only for receiving.

242. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 00:30:54 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <msqrk6lfmvstmnjvmcmp7pl5r8crpbgjno@4ax.com>
Source record: 5893

On Sat, 05 Feb 2011 11:05:25 -0600, joe <none@domain.invalid> wrote:

>bpuharic wrote:
>
>> yeah i think you're right. may have to drill holes...
>>
>> thanks for the info
>>
>
>How about using a bicycle carrier and attaching the antenna to it? The
>load would be better distributed.

that's actually a pretty good idea...may interfere with the
hatchback...someone here had the idea of a luggage rack, but grounding
may be an issue..

no good solutions!

243. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 00:40:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4df236f1-ab44-4c23-8fcc-4cec2e259f89@r16g2000yql.googlegroups.com>
Source record: 5894

On Feb 5, 11:25 pm, John - KD5YI <soph...@invalid.org> wrote:
> On 2/5/2011 12:27 PM, K1TTT wrote:
>
> > On Feb 5, 5:30 pm, John - KD5YI<soph...@invalid.org> wrote:
> >> On 2/5/2011 11:18 AM, Szczepan Bialek wrote:
>
> >>> Wimpie mentioned a monopole. Dipole = two monopole.
>
> >>> What does monopole radiate?
>
> >> Depends. If the monopole is pointed upwards, it radiates positive half
> >> cycles of RF. If pointed downwards, negative half cycles are radiated.
>
> > what about if it is horizontal???   or as art prefers, tipped at some
> > angle??
>
> Depends on which way it's pointing. If North, positive half cycles go
> West and negative half cycles go East.
>
> If it is tipped to an undefined angle, the positive and negative half
> cycles get confused and the electrons refuse to jump off. This makes it
> good only for receiving.

ah, that would be good for art since nobody wants to hear what he has
to say anyway.

244. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 01:08:14 UTC
From: nm5k@wt.net
Message-ID: <25870ce5-ddc5-436d-8ead-732c5cbb7775@glegroupsg2000goo.googlegroups.com>
Source record: 5895

There really are no good solutions for these newer toy
cars. That's why I don't have an antenna on my Corolla
even 3-4 years after I bought it. :/ Not even a 2m whip.
I had an Accord before the Corolla, and I drilled a
hole in the trunk and reinforced it with plates under
the trunk. It still distorted the thin metal of the trunk
after a while. My antennas are tall, and I *will* hit
something sooner or later. Usually trees.. But even the
lower stress of highway speed wind will distort one after
a while. The bike racks can be used, but you would have to
search long and hard to find a worse place to mount an
antenna. The ground losses will be much greater than any
antenna mounted up on the car. I don't care how well it's
grounded via wires.. The wire grounding scheme with little
metal under the base of the antenna just doesn't get it done.
It will be a good DC ground, but a piss poor RF ground.
Expect performance to basically suck.. :(
So... I've pretty much given up trying to mount an antenna
on that car. It will end up trashing my car, and being as it's
still fairly pristine, I'm not willing to do it.
I've still got my old trucks if I really have to have a radio
and antenna. They have antenna mounts which work well and
never a concern about warping metal. I just have to cough up
lots more for gas.
When I drive up to my place in OK, it's a 900 mile round trip,
and I drive the car to save gas. I just go without a radio until
I get there. I have dipoles in the trees there, with 100 ft of
coax that I keep rolled up on a tree branch stump. I miss the
radio on the drive, but not enough to butcher up my car. :/

245. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 01:26:08 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <84urk6dk3d0cuhq81u57q1u8nqaucit2vn@4ax.com>
Source record: 5896

On Sat, 5 Feb 2011 17:08:14 -0800 (PST), nm5k@wt.net wrote:

>There really are no good solutions for these newer toy
>cars.

yep. i'm starting to think this may be the case. i've seen tow hitches
used, but this interferes with the hatchback AND, since it's low, the
ground losses are huge

246. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 09:18:35 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4e6773$0$2498$65785112@news.neostrada.pl>
Source record: 5897

Uzytkownik "Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:vp8rk6l7d0f4nj2kupb1qtha3s1fh32l8u@4ax.com...
> On Sat, 5 Feb 2011 10:29:34 -0800 (PST), K1TTT <k1ttt@arrl.net> wrote:
>
>>Faraday was proven wrong many times by much later experiments.
>
> It would be interesting to see one such example.
>
> Faraday's classic "The Chemical History of a Candle" may be expressed
> in archaic language (not really that archaic once you get into the
> vernacular), but it is an example of extremely clear analysis and
> instruction. There is absolutely nothing wrong anywhere in that
> recital.
>
> Faraday examined the properties of induction - action at a distance -
> in equally archaic terms, but with scientifically rigorous methods.
> The archaic language was confined to terms of invention.

I see that you understand the Faraday's " archaic language ".
You know also that Faraday newer was wrong.
And, "Yes, indeed it does matter who is "writing history."

In a history by S. Errede is wrote: "Faraday inspired by his discovery of
the magnetic rotation of thinks that it might be transverse vibrations of
his beloved field lines"

Is Errede right?

Faraday wrote: " It seems to me, that the resultant of two or more lines of
force is in an apt condition for that action which may be considered as
equivalent to a lateral vibration; whereas a uniform medium, like the
aether, does not appear apt, or more apt than air or water."

For me he wrote: "The resultant of two or more monopoles is equivalent to a
lateral vibrations".

> Phlogiston,
> as both a term and concept, was an invented word that was current
> during his life.
>
> I am sure he used the Phlogiston in correspondence with those who
> understood its context. However, the nature of that correspondence
> reveals that neither party "believed" in it as a force of nature, and
> merely used the term and concept as a touchstone insofar as it was a
> focus of debate.
>

> In other words, for them the debate was over and Phlogiston was an
> intellectual dead-end, but the focus of the underlying question it was
> supposed to have answered was a question still being discussed.

Like the "if its power be shifted for a moment within the mass (neither of these cases being difficult to realise if A and B be either electric or magnetic bodies), then an effect equivalent to a lateral disturbance will take place in the resultant upon which we are fixing our attention.."

What your dipole prodce: TEM waves or "an effect equivalent to a lateral disturbance " ?
S*

247. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 12:17:33 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <07d36455-76a1-4c73-927a-17651651256a@k30g2000yqb.googlegroups.com>
Source record: 5898

On Feb 6, 9:18 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Richard Clark" <kb7...@comcast.net> napisal w
wiadomoscinews:vp8rk6l7d0f4nj2kupb1qtha3s1fh32l8u@4ax.com...
>
> > On Sat, 5 Feb 2011 10:29:34 -0800 (PST), K1TTT <k1...@arrl.net> wrote:
>
> >>Faraday was proven wrong many times by much later experiments.
>
> > It would be interesting to see one such example.
>
> > Faraday's classic "The Chemical History of a Candle" may be expressed
> > in archaic language (not really that archaic once you get into the
> > vernacular), but it is an example of extremely clear analysis and
> > instruction. There is absolutely nothing wrong anywhere in that
> > recital.
>
> > Faraday examined the properties of induction - action at a distance -
> > in equally archaic terms, but with scientifically rigorous methods.
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>
> I see that you understand the Faraday's " archaic language ".
> You know also that Faraday newer was wrong.
> And, "Yes, indeed it does matter who is "writing history."
>
> In a history by S. Errede is wrote: "Faraday inspired by his discovery of
> the magnetic rotation of thinks that it might be transverse vibrations of
> his beloved field lines"
>
> Is Errede right?
>
> Faraday wrote: " It seems to me, that the resultant of two or more lines of
>
> force is in an apt condition for that action which may be considered as
> equivalent to a lateral vibration; whereas a uniform medium, like the
> aether, does not appear apt, or more apt than air or water."
>
> For me he wrote: "The resultant of two or more monopoles is equivalent to a
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> lateral vibrations".
>
> > Phlogiston,
> > as both a term and concept, was an invented word that was current
> > during his life.
>

> > I am sure he used the Phlogiston in correspondence with those who
> > understood its context. However, the nature of that correspondence
> > reveals that neither party "believed" in it as a force of nature, and
> > merely used the term and concept as a touchstone insofar as it was a
> > focus of debate.
>
> > In other words, for them the debate was over and Phlogiston was an
> > intellectual dead-end, but the focus of the underlying question it was
> > supposed to have answered was a question still being discussed.
>
> Like the "if its power be shifted for a moment within the mass (neither of
> these cases being difficult to realise if A and B be either electric or
> magnetic bodies), then an effect equivalent to a lateral disturbance will
> take place in the resultant upon which we are fixing our attention.."
>
> What your dipole prodce: TEM waves or "an effect equivalent to a lateral
> disturbance " ?
> S*

you must remember, that just because any of those old guys wrote
something it doesn't mean that they believed it even a year later.
they were all putting up theories and trying to connect electricity
and magnetism with just about anything else for many years. it was
even many years before anyone figured out that electricity and
magnetism were related. you would learn much more by using a modern
text that has filtered out all the theories that were thrown away than
reading the raw conjectures of early theorists.

248. Relative strength: single-wall or nested aluminum tubing?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 15:58:26 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E846575C99F1VeebleFetzer@216.250.188.141>
Source record: 5899

I can find tubing with a .120" wall, and I can find it with .058" wall.

For a short run (just a few feet), would there be any significant
difference in bending resistance between a length of the thick wall stuff
and one made from two nested thin wall lengths?

Weight's not an issue, nor is price.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

249. Re: My first antenna "design"

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 16:32:02 UTC
From: Wayne <h8mimes@gmail.com>
Message-ID: <0164ad58-90f3-48fd-b2f7-238fb7545406@y12g2000prf.googlegroups.com>
Source record: 5900

On Feb 2, 5:48 pm, John - KD5YI <soph...@invalid.org> wrote:
> I had an idea that seems to work.
>
> I like inherently DC-shorted antennas because of an experience I had
> about 30 years ago with thunderstorms. Using a home-brew quarter-wave
> vertical on 2 meters, my receiver got completely blocked for about 10
> seconds by a lightning stroke a few miles from my location. I was
> terrified that I had lost the front end of the IC-2AT. Fortunately, I
> did not, but that experience apparently imprinted on my so-called brain.
> I know that I could add a shunt inductor across the terminals to prevent
> this, but I prefer a natural or inherent solution.
>
> The folded vertical unipole is inherently "grounded". (I use quotes here
> because what I really mean is that the antenna input is DC-connected to
> the common.) So, I like that antenna. However, its terminal impedance is
> about 4 times that of a simple ground plane.
>
> Well, I noticed that the terminal impedance of a simple quarter-wave
> unipole was about 30 or so ohms until the radials are sloped downward at
> about 45 degrees which raises the terminal impedance to about 50 ohms.
>
> In my case, I needed to lower the terminal impedance (about 120 to 140
> ohms) of the folded antenna. Well, what if I sloped the radials *upward*
> approximately 45 degrees to lower the terminal impedance to about 50 ohms?
>
> It worked, and EZNEC says that the radiation pattern is pretty much like
> the usual ground plane vertical.
>
> I just thought I would share this info with the group. I also have a
> configuration for a full-wave loop (inherently at DC common) on 70 cm
> that has an infinite balun thanks to Walter Maxwell's book Reflections
> II, page 22-10. How I manage to get the terminal impedance to 50 ohms is
> interesting, but I will save that for another post.
>
> Cheers,
> John KD5YI

Interesting design, as it is shorter than a standard ground plane
vertical. Have you built and tested one?

Wayne W5GIE

250. Re: Relative strength: single-wall or nested aluminum tubing?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 17:06:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t1ltk6hn8d6g6ttarqg8pbl2bk34aqsss5@4ax.com>
Source record: 5751

On 06 Feb 2011 15:58:26 GMT, Bert Hyman <bert@iphouse.com> wrote:

>For a short run (just a few feet), would there be any significant
>difference in bending resistance between a length of the thick wall stuff
>and one made from two nested thin wall lengths?

Hi Bert,

Probably not, but what is on either side of this "short run" that
loads this run with stress?

Is this a vertical run, or horizontal run?

73's
Richard Clark, KB7QHC

251. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 17:24:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4ed958$0$2452$65785112@news.neostrada.pl>
Source record: 5752

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:07d36455-76a1-4c73-927a-17651651256a@k30g2000yqb.googlegroups.com...
On Feb 6, 9:18 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Like the "if its power be shifted for a moment within the mass (neither
>> of
> these cases being difficult to realise if A and B be either electric or
> magnetic bodies), then an effect equivalent to a lateral disturbance will
> take place in the resultant upon which we are fixing our attention.."
>
>> What your dipole prodce: TEM waves or "an effect equivalent to a lateral
> disturbance " ?
> S*

>you must remember, that just because any of those old guys wrote
something it doesn't mean that they believed it even a year later.
they were all putting up theories and trying to connect electricity
and magnetism with just about anything else for many years. it was
even many years before anyone figured out that electricity and
magnetism were related. you would learn much more by using a modern
text

In modern text is wrote that dipoles are polarised and multipoles arrays are
phased..

> that has filtered out all the theories that were thrown away than
reading the raw conjectures of early theorists.

In textbooks are theories with math. Faraday described an ideas.
His idea without an aether and with the electrons seems to be correct.
S*

252. Re: Relative strength: single-wall or nested aluminum tubing?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 18:01:47 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E847A5FC86DEVeebleFetzer@216.250.188.140>
Source record: 5753

In news:t1ltk6hn8d6g6ttarqg8pbl2bk34aqsss5@4ax.com Richard Clark
<kb7qhc@comcast.net> wrote:

> On 06 Feb 2011 15:58:26 GMT, Bert Hyman <bert@iphouse.com> wrote:
>
>>For a short run (just a few feet), would there be any significant
>>difference in bending resistance between a length of the thick wall
>>stuff and one made from two nested thin wall lengths?
>
> Hi Bert,
>
> Probably not, but what is on either side of this "short run" that
> loads this run with stress?

The rest of my antenna :-) About 25 feet of more aluminum.

It's actually a Hy-Gain AV-640, and the base tube is made of two nested
pieces of .058" tubing, but it's only a foot long, and I'm considering
some mounting options that would require a longer section that I'd have
to make out of stuff I can buy easily.

> Is this a vertical run, or horizontal run?

It's vertical.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

253. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 18:15:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <871d54d2-13ef-436c-b018-cf74cc723bab@r16g2000yqk.googlegroups.com>
Source record: 5754

On Feb 6, 5:24 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:07d36455-76a1-4c73-927a-17651651256a@k30g2000yqb.googlegroups.com...
> On Feb 6, 9:18 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Like the "if its power be shifted for a moment within the mass (neither
> >> of
> > these cases being difficult to realise if A and B be either electric or
> > magnetic bodies), then an effect equivalent to a lateral disturbance will
> > take place in the resultant upon which we are fixing our attention.."
>
> >> What your dipole prodce: TEM waves or "an effect equivalent to a lateral
> > disturbance " ?
> > S*
> >you must remember, that just because any of those old guys wrote
>
> something it doesn't mean that they believed it even a year later.
> they were all putting up theories and trying to connect electricity
> and magnetism with just about anything else for many years. it was
> even many years before anyone figured out that electricity and
> magnetism were related. you would learn much more by using a modern
> text
>
> In modern text is wrote that dipoles are polarised and multipoles arrays are
> phased..
>
> > that has filtered out all the theories that were thrown away than
>
> reading the raw conjectures of early theorists.
>
> In textbooks are theories with math. Faraday described an ideas.
> His idea without an aether and with the electrons seems to be correct.
> S*

it may seem to be to you, but it isn't. look at maxwell's equations,
there is no need for free charge for propagating waves.

254. Re: Relative strength: single-wall or nested aluminum tubing?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 18:49:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <73rtk69hqvb3st62nlnvtgl5rfunkcss9m@4ax.com>
Source record: 5755

On 06 Feb 2011 18:01:47 GMT, Bert Hyman <bert@iphouse.com> wrote:

>> Probably not, but what is on either side of this "short run" that
>> loads this run with stress?
>
>The rest of my antenna :-) About 25 feet of more aluminum.
>
>It's actually a Hy-Gain AV-640, and the base tube is made of two nested
>pieces of .058" tubing, but it's only a foot long, and I'm considering
>some mounting options that would require a longer section that I'd have
>to make out of stuff I can buy easily.

Hi Bert,

So it is at the point of maximum leverage - something to consider. As
it is vertical, then wind forces will be magnified at this point.
However, it seems you are doubling the length of what would have been
there anyway.

It still seems robust.

73's
Richard Clark, KB7QHC

255. Re: My first antenna "design"

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 18:53:52 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iimqo1mod1@news.eternal-september.org>
Source record: 5756

On 2/6/2011 10:32 AM, Wayne wrote:
> On Feb 2, 5:48 pm, John - KD5YI<soph...@invalid.org> wrote:
>> I had an idea that seems to work.
>>
>> I like inherently DC-shorted antennas because of an experience I had
>> about 30 years ago with thunderstorms. Using a home-brew quarter-wave
>> vertical on 2 meters, my receiver got completely blocked for about 10
>> seconds by a lightning stroke a few miles from my location. I was
>> terrified that I had lost the front end of the IC-2AT. Fortunately, I
>> did not, but that experience apparently imprinted on my so-called brain.
>> I know that I could add a shunt inductor across the terminals to prevent
>> this, but I prefer a natural or inherent solution.
>>
>> The folded vertical unipole is inherently "grounded". (I use quotes here
>> because what I really mean is that the antenna input is DC-connected to
>> the common.) So, I like that antenna. However, its terminal impedance is
>> about 4 times that of a simple ground plane.
>>
>> Well, I noticed that the terminal impedance of a simple quarter-wave
>> unipole was about 30 or so ohms until the radials are sloped downward at
>> about 45 degrees which raises the terminal impedance to about 50 ohms.
>>
>> In my case, I needed to lower the terminal impedance (about 120 to 140
>> ohms) of the folded antenna. Well, what if I sloped the radials *upward*
>> approximately 45 degrees to lower the terminal impedance to about 50 ohms?
>>
>> It worked, and EZNEC says that the radiation pattern is pretty much like
>> the usual ground plane vertical.
>>
>> I just thought I would share this info with the group. I also have a
>> configuration for a full-wave loop (inherently at DC common) on 70 cm
>> that has an infinite balun thanks to Walter Maxwell's book Reflections
>> II, page 22-10. How I manage to get the terminal impedance to 50 ohms is
>> interesting, but I will save that for another post.
>>
>> Cheers,
>> John KD5YI
>
> Interesting design, as it is shorter than a standard ground plane
> vertical. Have you built and tested one?
>
> Wayne W5GIE

Yes, I have. The one I constructed was for the 70 cm band. I have misplaced the frequency/impedance data I took, but I remember that it compared closely with EZNEC. I did not try to measure the pattern, but I did not notice any dead spots when receiving.

The only thing I don't like is that it is more time-consuming to tune because you can't just chop off the end like you can with the unfolded one.

John KD5YI

256. Re: Relative strength: single-wall or nested aluminum tubing?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 20:05:26 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <02be5f82-f2da-40eb-9010-a1a5ba9a438e@w19g2000yqa.googlegroups.com>
Source record: 5757
Body handling: HTML body converted to readable text

On Feb 6, 2:01 pm, Bert Hyman wrote:
> Innews:t1ltk6hn8d6g6ttarqg8pbl2bk34aqsss5@4ax.comRichard Clark
>
> wrote:
> > On 06 Feb 2011 15:58:26 GMT, Bert Hyman wrote:
>
> >>For a short run (just a few feet), would there be any significant
> >>difference in bending resistance between a length of the thick wall
> >>stuff and one made from two nested thin wall lengths?
>
> > Hi Bert,
>
> > Probably not, but what is on either side of this "short run" that
> > loads this run with stress?
>
> The rest of my antenna :-) About 25 feet of more aluminum.
>
> It's actually a Hy-Gain AV-640, and the base tube is made of two nested
> pieces of .058" tubing, but it's only a foot long, and I'm considering
> some mounting options that would require a longer section that I'd have
> to make out of stuff I can buy easily.
>
> > Is this a vertical run, or horizontal run?
>
> It's vertical.
>
> --
> Bert Hyman W0RSB St. Paul, MN b...@iphouse.com

Hi Bert, I had a similar issue, filled the center of the tubing with
hardwood dowl. The rod I used was for a curtain or closet. I survived
a hurricane and a tornado that took off a good part of my roof. Not
only does it add strength but it keeps the aluminum from collapsing.

Jimmie

Jimmie

257. Re: Relative strength: single-wall or nested aluminum tubing?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-06 20:39:54 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <c8ddf3ca-00c0-4df9-9b51-c5a53efe1ac0@k17g2000pre.googlegroups.com>
Source record: 5758
Body handling: HTML body converted to readable text

On Feb 6, 7:58 am, Bert Hyman wrote:
> I can find tubing with a .120" wall, and I can find it with .058" wall.
>
> For a short run (just a few feet), would there be any significant
> difference in bending resistance between a length of the thick wall stuff
> and one made from two nested thin wall lengths?
>
> Weight's not an issue, nor is price.
>
> --
> Bert Hyman W0RSB St. Paul, MN b...@iphouse.com

It would depend on how you did the nesting. If there's an
interference fit, then it's pretty much one piece of metal.
If it's not, and they can bend independently, you need to figure out
how the loads distribute between the pieces.

258. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 02:48:01 UTC
From: tom <news4792@taring.org>
Message-ID: <4d4f5d60$0$87580$8046368a@newsreader.iphouse.net>
Source record: 5759

On 2/6/2011 11:24 AM, Szczepan Bialek wrote:
> "K1TTT"<k1ttt@arrl.net> napisal w wiadomosci

>
>> you must remember, that just because any of those old guys wrote
> something it doesn't mean that they believed it even a year later.
> they were all putting up theories and trying to connect electricity
> and magnetism with just about anything else for many years. it was
> even many years before anyone figured out that electricity and
> magnetism were related. you would learn much more by using a modern
> text
>
> In modern text is wrote that dipoles are polarised and multipoles arrays are
> phased..
>

And your comment here implies something? You have stated nothing.

tom
K0TAR

259. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 07:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1297062301@panix.com>
Source record: 5760
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

260. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 08:03:38 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d4fa75f$0$2444$65785112@news.neostrada.pl>
Source record: 5761

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4d4f5d60$0$87580$8046368a@newsreader.iphouse.net...
> On 2/6/2011 11:24 AM, Szczepan Bialek wrote:
>> "K1TTT"<k1ttt@arrl.net> napisal w wiadomosci
>
>>
>>> you must remember, that just because any of those old guys wrote
>> something it doesn't mean that they believed it even a year later.
>> they were all putting up theories and trying to connect electricity
>> and magnetism with just about anything else for many years. it was
>> even many years before anyone figured out that electricity and
>> magnetism were related. you would learn much more by using a modern
>> text
>>
>> In modern text is wrote that dipoles are polarised and multipoles arrays
>> are
>> phased..
>>
>
> And your comment here implies something? You have stated nothing.

In Heaviside's model waves are polarised. It means that the waves are
transversal (rotational vibrations). The medium is a solid dielectric.

In Faraday model the two or more sources of pressure waves produce effect
equivalent to the transverse waves.
In Faraday's electrons no transverse waves. Are such in wires?
S*

261. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 17:40:15 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ca81f3b1-dd84-4b0d-ab99-fefd53bc834d@o21g2000prn.googlegroups.com>
Source record: 5762

On Feb 7, 8:03 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "tom" <news4...@taring.org> napisal w
wiadomoscinews:4d4f5d60$0$87580$8046368a@newsreader.iphouse.net...
>
>
>
> > On 2/6/2011 11:24 AM, Szczepan Bialek wrote:
> >> "K1TTT"<k1...@arrl.net> napisal w wiadomosci
>
> >>> you must remember, that just because any of those old guys wrote
> >> something it doesn't mean that they believed it even a year later.
> >> they were all putting up theories and trying to connect electricity
> >> and magnetism with just about anything else for many years. it was
> >> even many years before anyone figured out that electricity and
> >> magnetism were related. you would learn much more by using a modern
> >> text
>
> >> In modern text is wrote that dipoles are polarised and multipoles arrays
> >> are
> >> phased..
>
> > And your comment here implies something? You have stated nothing.
>
> In Heaviside's model waves are polarised. It means that the waves are
> transversal (rotational vibrations). The medium is a solid dielectric.
>
> In Faraday model the two or more sources of pressure waves produce effect
> equivalent to the transverse waves.
> In Faraday's electrons no transverse waves. Are such in wires?
> S*

as long as you continue to live in the 1800's you will never learn the
truth.

262. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 18:59:44 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iipff1pgb1@news.eternal-september.org>
Source record: 5763

```
On 2/7/2011 11:40 AM, K1TTT wrote:
> On Feb 7, 8:03 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> Uzytkownik "tom"<news4...@taring.org> napisal w
wiadomoscinews:4d4f5d60$0$87580$8046368a@newsreader.iphouse.net...
>>
>>
>>
>>> On 2/6/2011 11:24 AM, Szczepan Bialek wrote:
>>>> "K1TTT"<k1...@arrl.net> napisal w wiadomosci
>>
>>>>> you must remember, that just because any of those old guys wrote
>>>> something it doesn't mean that they believed it even a year later.
>>>> they were all putting up theories and trying to connect electricity
>>>> and magnetism with just about anything else for many years. it was
>>>> even many years before anyone figured out that electricity and
>>>> magnetism were related. you would learn much more by using a modern
>>>> text
>>
>>>> In modern text is wrote that dipoles are polarised and multipoles arrays
>>>> are
>>>> phased..
>>
>>> And your comment here implies something? You have stated nothing.
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>> In Heaviside's model waves are polarised. It means that the waves are
>> transversal (rotational vibrations). The medium is a solid dielectric.
>>
>> In Faraday model the two or more sources of pressure waves produce effect
>> equivalent to the transverse waves.
>> In Faraday's electrons no transverse waves. Are such in wires?
>> S*
>
> as long as you continue to live in the 1800's you will never learn the
> truth.

Being ignorant is not so shameful as being unwilling to learn.
```

263. Antenna in the Attic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 19:38:30 UTC
From: sid <sidwelle@alexian.net>
Message-ID: <5978460e-0b6e-46c0-add6-443b0931532b@x11g2000yqc.googlegroups.com>
Source record: 5764

I plan to relocate our entertainment system to the basement. At the same time I plan to run cable to the attic for TV and Radio. I would like some advice on what type of cable to run and what types of Antennas would work best from an attic.

Do I need to go buy a radio antenna, or is it just as simple to construct one ?

Thanks'

264. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 19:39:35 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iiphpo$794$1@news.jpl.nasa.gov>
Source record: 5768

joe wrote:
> bpuharic wrote:
>
>> yeah i think you're right. may have to drill holes...
>>
>> thanks for the info
>>
>
> How about using a bicycle carrier and attaching the antenna to it? The
> load would be better distributed.
>

I've done a variety of schemes like that. A removable bike rack that straps to the trunk lid works fairly well.

I've also built something that clamps onto the towing/tie-down lug. That works pretty well if the lug is in the correct orientation.

A light duty trailer receiver works really well, and when you pull the antenna off, it's very inconspicuous. I did something like this by just bolting a piece of 1x1" square tubing to the bottom of the spare tire well to make a sort of receiver. The antenna mount slides in and it's held in with a couple of removable hitch pins.

pictures (although not very good on the detail you're looking for)
http://home.earthlink.net/~w6rmk/mobile.htm

265. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 19:45:46 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iipi5a$79r$1@news.jpl.nasa.gov>
Source record: 5767

bpuharic wrote:
> On Sat, 5 Feb 2011 17:08:14 -0800 (PST), nm5k@wt.net wrote:
>
>> There really are no good solutions for these newer toy
>> cars.
>
> yep. i'm starting to think this may be the case. i've seen tow hitches
> used, but this interferes with the hatchback AND, since it's low, the
> ground losses are huge
>

Not necessarily.. you can use something that has a lateral member to put the antenna at the corner of the car. Or have a pivot to allow you to swing it out of the way.

As far as the losses go.. just put the base of the antenna (feedpoint) up higher (mount the antenna on a stalk, as it were). You WANT the current in the stalk to couple to the car body. The losses in a few feet of wire to connect the ground aren't a big deal (after all, the antenna itself is just a piece of wire, and the losses in that are presumably acceptable)

One way to think of a mobile antenna is as a dipole with a wire on one side and a very odd shaped ball of wire on the other.

The real thing on the whole grounding thing is to make sure that all the pieces of the car are grounded together, and that your antenna "ground" is connected to a big piece of metal. Bumpers, for instance, are often electrically isolated from the rest of the car by the shock absorbing mounts.

266. Re: Antenna in the Attic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 19:49:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1909851d-e7ca-4184-89be-f6899b67af75@g11g2000vbq.googlegroups.com>
Source record: 5765

On Feb 7, 7:38 pm, sid <sidwe...@alexian.net> wrote:
> I plan to relocate our entertainment system to the basement. At the
> same time I plan to run cable to the attic for TV and Radio. I would
> like some advice on what type of cable to run and what types of
> Antennas would work best from an attic.
>
> Do I need to go buy a radio antenna, or is it just as simple to
> construct one ?
>
> Thanks'

what kind of radio?

267. Re: Antenna in the Attic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 19:53:50 UTC
From: sid <sidwelle@alexian.net>
Message-ID: <3bab8da1-c20e-4f8b-8769-4a63fe32388e@p12g2000vbo.googlegroups.com>
Source record: 5766

On Feb 7, 1:49 pm, K1TTT <k1...@arrl.net> wrote:
> On Feb 7, 7:38 pm, sid <sidwe...@alexian.net> wrote:
>
> > I plan to relocate our entertainment system to the basement. At the
> > same time I plan to run cable to the attic for TV and Radio. I would
> > like some advice on what type of cable to run and what types of
> > Antennas would work best from an attic.
>
> > Do I need to go buy a radio antenna, or is it just as simple to
> > construct one ?
>
> > Thanks'
>
> what kind of radio?

Just and AM / FM receiver.

I was considering:
2x cat5+ UTP
1x 75 coax for TV
1x 50 coax for FM
AM ??

268. Re: Antenna in the Attic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 20:14:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ba5ba2b1-e067-4082-a4d2-5951f6402443@s18g2000vbe.googlegroups.com>
Source record: 5769

On Feb 7, 7:53 pm, sid <sidwe...@alexian.net> wrote:
> On Feb 7, 1:49 pm, K1TTT <k1...@arrl.net> wrote:
>
> > On Feb 7, 7:38 pm, sid <sidwe...@alexian.net> wrote:
>
> > > I plan to relocate our entertainment system to the basement. At the
> > > same time I plan to run cable to the attic for TV and Radio. I would
> > > like some advice on what type of cable to run and what types of
> > > Antennas would work best from an attic.
>
> > > Do I need to go buy a radio antenna, or is it just as simple to
> > > construct one ?
>
> > > Thanks'
>
> > what kind of radio?
>
> Just and AM / FM receiver.
>
> I was considering:
> 2x cat5+ UTP
> 1x 75 coax for TV
> 1x 50 coax for FM
> AM ??

you can normally use the same antenna for TV and FM, and i think most
FM receivers are 75 or 300 ohm inputs anyway. if you really want a
separate one for FM there are simple cheap parallel wire dipoles that
often come with receivers you can just tack up on the wall. AM
receivers probably won't care if you use 50 or 75 ohm, just run a loop
of wire around the attic as far from power lines as you can and that
should be fine.

269. Re: Antenna in the Attic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 21:28:03 UTC
From: sid <sidwelle@alexian.net>
Message-ID: <b2939388-b186-41e5-b3b7-1887364bd08d@a28g2000vbo.googlegroups.com>
Source record: 5770

On Feb 7, 2:14 pm, K1TTT <k1...@arrl.net> wrote:
> On Feb 7, 7:53 pm, sid <sidwe...@alexian.net> wrote:
>
>
>
>
>
> > On Feb 7, 1:49 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Feb 7, 7:38 pm, sid <sidwe...@alexian.net> wrote:
>
> > > > I plan to relocate our entertainment system to the basement. At the
> > > > same time I plan to run cable to the attic for TV and Radio. I would
> > > > like some advice on what type of cable to run and what types of
> > > > Antennas would work best from an attic.
>
> > > > Do I need to go buy a radio antenna, or is it just as simple to
> > > > construct one ?
>
> > > > Thanks'
>
> > > what kind of radio?
>
> > Just and AM / FM receiver.
>
> > I was considering:
> > 2x cat5+ UTP
> > 1x 75 coax for TV
> > 1x 50 coax for FM
> > AM ??
>
> you can normally use the same antenna for TV and FM, and i think most
> FM receivers are 75 or 300 ohm inputs anyway. if you really want a
> separate one for FM there are simple cheap parallel wire dipoles that
> often come with receivers you can just tack up on the wall. AM
> receivers probably won't care if you use 50 or 75 ohm, just run a loop
> of wire around the attic as far from power lines as you can and that
> should be fine.- Hide quoted text -
>
> - Show quoted text -

So I end up with 2 coax cables:
1st coax for TV/FM with an antenna in the attic.
What about a signal amp ? do they really help ?

2nd coax for AM, loop around the attic (how big is too big and should it be parallel or horizontal to the ground ?)

Can I use splitters for multiple receivers, or will this degrade the signal too much ?

270. Re: Antenna in the Attic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-07 21:42:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <65ff2ab9-5536-41c0-a618-7d18d6272b5f@x18g2000yqe.googlegroups.com>
Source record: 5771

```
On Feb 7, 9:28 pm, sid <sidwe...@alexian.net> wrote:
> On Feb 7, 2:14 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Feb 7, 7:53 pm, sid <sidwe...@alexian.net> wrote:
>
> > > On Feb 7, 1:49 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Feb 7, 7:38 pm, sid <sidwe...@alexian.net> wrote:
>
> > > > > I plan to relocate our entertainment system to the basement. At the
> > > > > same time I plan to run cable to the attic for TV and Radio.  I would
> > > > > like some advice on what type of cable to run and what types of
> > > > > Antennas would work best from an attic.
>
> > > > > Do I need to go buy a radio antenna, or is it just as simple to
> > > > > construct one ?
>
> > > > > Thanks'
>
> > > > what kind of radio?
>
> > > Just and AM / FM receiver.
>
> > > I was considering:
> > > 2x cat5+ UTP
> > > 1x 75 coax for TV
> > > 1x 50 coax for FM
> > > AM ??
>
> > you can normally use the same antenna for TV and FM, and i think most
> > FM receivers are 75 or 300 ohm inputs anyway.  if you really want a
> > separate one for FM there are simple cheap parallel wire dipoles that
> > often come with receivers you can just tack up on the wall.  AM
> > receivers probably won't care if you use 50 or 75 ohm, just run a loop
> > of wire around the attic as far from power lines as you can and that
> > should be fine.- Hide quoted text -
>
> > - Show quoted text -
>
> So I end up with 2 coax cables:
> 1st coax for TV/FM with an antenna in the attic.
>     What about a signal amp ?  do they really help ?
```

> 2nd coax for AM, loop around the attic (how big is too big and should
> it be parallel or horizontal to the ground ?)
>
> Can I use splitters for multiple receivers, or will this degrade the
> signal too much ?

using splitters or preamps depends on how strong the signals you want
to get already are. if they are strong enough then you can use
splitters without any problem, if they are too weak you may need a
preamp to boost them before splitting.

you can't make an AM loop too big or orient it enough to make any
difference inside your house, just run it around what is easy to reach
and don't worry about it.

271. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-08 02:13:31 UTC
From: nm5k@wt.net
Message-ID: <aa1b8533-e70a-40a0-9286-e81ce5fe5c60@glegroupsg2000goo.googlegroups.com>
Source record: 5772

On Monday, February 7, 2011 1:45:46 PM UTC-6, Jim Lux wrote:

>
> As far as the losses go.. just put the base of the antenna (feedpoint)
> up higher (mount the antenna on a stalk, as it were). You WANT the
> current in the stalk to couple to the car body. The losses in a few
> feet of wire to connect the ground aren't a big deal (after all, the
> antenna itself is just a piece of wire, and the losses in that are
> presumably acceptable)

It will still be fairly lame compared to the whip
mounted on the body of the vehicle. It's not that
ground wires are lossy, the biggest problem is the
lack of real metal under the base of the antenna.
Heck, I once mounted one on a piece of stout angle
iron which was on top of the bed right behind the
back cab window of the truck. I had extra strap
grounding the angle iron to the bed of the truck,
and the whole truck is bonded together.
The antenna was lame. :(I could tell the difference
the first time I use it. When I moved over to the top
of the utility bed toolbox, it came back alive as normal.
He could try it, but I wouldn't be expecting too good
of results. But.. I am spoiled on using good mount
locations, so I am admittedly picky. :/

>
> One way to think of a mobile antenna is as a dipole with a wire on one
> side and a very odd shaped ball of wire on the other.

This is sort of true, but not totally.. It's still
going to act more like a vertical on a poor ground,
than a perverted dipole. One reason I know this is
because no matter what I mount my whip on, it's
resonant frequency never changes much at all.

If it acted more like a dipole, even small changes in
vehicle size and mount location would drastically
detune the antenna to the point it would have to be
retuned a bit. But I've never seen this to be the case
with mine. No matter where on the truck I mount it, or
even if I slap it on a totally different small car,
the antenna tunes the same frequency. That tells me,
it's actually much more like a vertical with varying
qualities of ground, than a dipole with changing lengths
on one side.

I know many claim this is the case, including Roy and
a few others that are quite knowledgeable, but I don't
totally buy it judging from my experiences.
Even when I mounted the antenna on the lame performing
angle iron, it tuned the same place. It just didn't
radiate worth a hoot. When I moved it to the toolbox
with decent metal under the whip, it tuned the same
place, but it radiated much better. One of my trucks
has the whip mounted on the side of the cab, not much
lower than the roof line. It's the best performer out
of all the mounts I've tried. The base is high up, and
the antenna is tall. So needless to say I'm fairly
spoiled. :/

>
> The real thing on the whole grounding thing is to make sure that all the
> pieces of the car are grounded together, and that your antenna "ground"
> is connected to a big piece of metal. Bumpers, for instance, are often
> electrically isolated from the rest of the car by the shock absorbing
> mounts.

Nothing wrong with that advice, but I think it's most
important to have that big piece of metal under the whip.
It's not going to do much good if it's a few feet away and
connected by wires, or even thick strap. I've found this
out the hard way.. :(But again, I am picky.. And spoiled.
:/

272. Re: More on R + jX vs. SWR

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-08 02:50:52 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iiqb2f$k2o$1@news.eternal-september.org>
Source record: 5773

```
On 1/24/2011 4:11 PM, Nordic Breeds WA4VZQ wrote:
> "Edward Knobloch"<alias@nowhere.net> wrote in message
> news:XtOdnfg4gP_SUqDQnZ2dnUVZ_gednZ2d@giganews.com...
>> Hi, Gang
>>
>> I recently posted about a DOS program by KQ6RH,
>> to convert from RX noise bridge knob settings
>> to impedance, in both polar and rectangular form:
>> http://www.antenna-magic.com/Rx_brdg.htm
>>
>> My only "complaint" was that his program didn't also
>> output the SWR for a 50 Ohm system.
>>
>> I realize that I can get the SWR info
>> from a Smith chart, but the charts I have found
>> for free download are centered on R=1,
>> and require quite a bit of squinting to use.
>>
>> Anyway, I stumbled upon a very handy graph
>> of SWR vs. R +jX (for SWR< 3.5:1 ),
>> appearing in RCA Ham Tips for Dec 1956:
>> http://bama.edebris.com/manuals/rcahamtips/rca1604/
>>
>> 73,
>> Ed Knobloch
>
>
> Ed,
>
> The Smith Charts with R=1 in the center are normalized charts. If you
> have 50 ohm coaxial cable, just multiply the numbers by 50. You may
> occasionally use 75 ohm cable. While you can buy charts with R=75 in the
> center, all you have to do with a normalized chart is to multiply the
> values by 75. I doubt if you can even buy charts specifically for 93 ohm
> (RG-62) cable, 300 ohm twinlead, or 450 and 440 ohm "window" line.
>
> I always compute the reflection coefficient from a complex load before I
> calculate the VSWR.
>
> ? (Greek capital letter Gamma) = (Zmeas - Zline)/(Zmeas + Zline)
>
> We usually think that we can replace the line impedance with 50 + j0, but
> as my friend Tom, K7ITM, often points out, so-called 50 ohm cable no
> longer has a purely resistive characteristic impedance at low
```

> frequencies. So we need to calculate the reflection coefficient as a
> complex number. Once we have this, we need to determine the magnitude of
> the reflection coefficient.
>
> ? (Greek lower case rho) = |?|
>
> = sqrt(Real*Real + Imag*Imag)
>
> Once we know the magnitude of the reflection coefficient, which is always
> less than or equal to unity, the voltage standing wave ratio is simply
>
> VSWR = (1 + ?)/(1 - ?)
>
> If you have Windoze, all of these calculations are easily done in Excel.
> You may have to install the Analysis Toolpack to get Excel to handle
> complex numbers.
>
> I strongly suggest that you continue to use Smith charts. The first
> large program for my TI-59 calculator nearly forty years ago was an
> electronic Smith chart. It was handy. but I continued to use Smith
> charts because they offer graphically significant insight into what
> happens along the length of a transmission line. Additionally, they help
> you catch mistakes.
>
> 73, Barry WA4VZQ
>
> Postscript: I used rich text format solely because I could use Greek
> letters. Gamma and rho are almost universally used to represent the
> complex reflection coefficient and its magnitude respectively in
> engineering publications.
>

For a Smith Chart which allows any Zo you wish, try:

http://www.fritz.dellsperger.net/PartInterests.htm

I love this chart. I used the free version for years.

Cheers,
John

273. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-08 08:37:07 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d5100b7$0$2458$65785112@news.neostrada.pl>
Source record: 5774

"John - KD5YI" <sophi.2@invalid.org> napisal w wiadomosci
news:iipff1pgb1@news.eternal-september.org...
> On 2/7/2011 11:40 AM, K1TTT wrote:
>>>>>
>>> In Heaviside's model waves are polarised. It means that the waves are
>>> transversal (rotational vibrations). The medium is a solid dielectric.
>>>
>>> In Faraday model the two or more sources of pressure waves produce
>>> effect
>>> equivalent to the transverse waves.
>>> In Faraday's electrons no transverse waves. Are such in wires?
>>> S*
>>
>> as long as you continue to live in the 1800's you will never learn the
>> truth.
>
>
> Being ignorant is not so shameful as being unwilling to learn.

Yes and no. I am an ignorant but I am here to learn.

It seems to me that Faraday model fits to todays radio. Why not?
S*

274. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-08 23:59:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <61cae256-786d-4e0b-bd5a-9861f9908060@x17g2000yqa.googlegroups.com>
Source record: 5775

On Feb 8, 8:37 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "John - KD5YI" <soph...@invalid.org> napisal w
wiadomoscinews:iipff1pgb1@news.eternal-september.org...
>
>
>
> > On 2/7/2011 11:40 AM, K1TTT wrote:
>
> >>> In Heaviside's model waves are polarised. It means that the waves are
> >>> transversal (rotational vibrations). The medium is a solid dielectric.
>
> >>> In Faraday model the two or more sources of pressure waves produce
> >>> effect
> >>> equivalent to the transverse waves.
> >>> In Faraday's electrons no transverse waves. Are such in wires?
> >>> S*
>
> >> as long as you continue to live in the 1800's you will never learn the
> >> truth.
>
> > Being ignorant is not so shameful as being unwilling to learn.
>
> Yes and no. I am an ignorant but I am here to learn.
>
> It seems to me that Faraday model fits to todays radio. Why not?
> S*

because it is wrong? at least the stuff that you quote is. faraday
did make a contribution to maxwell's equations, but not anything that
required an aether or free electrons flying around.

275. Re: trunk lip mount for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-09 02:01:34 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <uat3l6lo1o9dnhcqudrc37df8b4kikj89n@4ax.com>
Source record: 5776

On Mon, 07 Feb 2011 11:45:46 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>bpuharic wrote:
>> On Sat, 5 Feb 2011 17:08:14 -0800 (PST), nm5k@wt.net wrote:
>>
>>> There really are no good solutions for these newer toy
>>> cars.
>>
>> yep. i'm starting to think this may be the case. i've seen tow hitches
>> used, but this interferes with the hatchback AND, since it's low, the
>> ground losses are huge
>>
>
>Not necessarily.. you can use something that has a lateral member to put
>the antenna at the corner of the car. Or have a pivot to allow you to
>swing it out of the way.
>
>As far as the losses go.. just put the base of the antenna (feedpoint)
>up higher (mount the antenna on a stalk, as it were). You WANT the
>current in the stalk to couple to the car body. The losses in a few
>feet of wire to connect the ground aren't a big deal (after all, the
>antenna itself is just a piece of wire, and the losses in that are
>presumably acceptable)
>
>One way to think of a mobile antenna is as a dipole with a wire on one
>side and a very odd shaped ball of wire on the other.
>
>The real thing on the whole grounding thing is to make sure that all the
>pieces of the car are grounded together, and that your antenna "ground"
>is connected to a big piece of metal. Bumpers, for instance, are often
>electrically isolated from the rest of the car by the shock absorbing
>mounts.

that's true. i used to have a screwdriver that was a BITCH to get
matched because of the grounding

276. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-09 03:33:36 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <b68f5349-1a27-48f8-ae9c-9e9f5eeb8b74@8g2000prt.googlegroups.com>
Source record: 5777

On Feb 8, 12:37 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
...
> Yes and no. I am an ignorant but I am here to learn.

It's a noble goal, but this is, perhaps, not the best place for you to
to do that...

Cheers,
Tom

277. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 01:37:33 UTC
From: tom <news4792@taring.org>
Message-ID: <4d53415a$0$6707$8046368a@newsreader.iphouse.net>
Source record: 5778

On 2/8/2011 2:37 AM, Szczepan Bialek wrote:

>>
>> Being ignorant is not so shameful as being unwilling to learn.
>
> Yes and no. I am an ignorant but I am here to learn.
>
> It seems to me that Faraday model fits to todays radio. Why not?
> S*
>
>

You seem to be resisting learning from those who know much better than you. I would suggest you stop resisting, start listening and begin learning.

I hate to be pessimistic, but I doubt you will do even 1 of the 3 suggestions.

tom
K0TAR

278. new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 09:27:30 UTC
From: MikeV <MikeV.7997db9@radiobanter.com>
Message-ID: <MikeV.7997db9@radiobanter.com>
Source record: 5780

I recently bought a great new antenna with 100 mile range radius.

mvoleski@ccf[.]org

--
MikeV

279. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 09:39:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d53b249$0$2495$65785112@news.neostrada.pl>
Source record: 5779

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4d53415a$0$6707$8046368a@newsreader.iphouse.net...
> On 2/8/2011 2:37 AM, Szczepan Bialek wrote:
>
>>>
>>> Being ignorant is not so shameful as being unwilling to learn.
>>
>> Yes and no. I am an ignorant but I am here to learn.
>>
>> It seems to me that Faraday model fits to todays radio. Why not?
>> S*
>
> You seem to be resisting learning from those who know much better than
> you. I would suggest you stop resisting, start listening and begin
> learning.
>
> I hate to be pessimistic, but I doubt you will do even 1 of the 3
> suggestions.

Asking questions is not resisting. Two years ago Richard C. wrote:

"Actually you have mixed up two different characteristics. Polarity
and polarization are NOT the same thing. With RF radiation, the wave
is constantly changing polarity (that is why the source of RF is
called alternating current), but within the "line of sight" of the
antenna, the polarization for a dipole is defined by its angle to the
earth as viewed by the observer.

If you see an horizontal dipole, it produces alternating polarities of
waves with horizontal polarization. If you see a vertical dipole, it
produces alternating polarities of waves with vertical polarization.

RF energy is ALWAYS changing polarity."

Can a monopole produce "polarisation"?
S*

280. Re: Relative strength: single-wall or nested aluminum tubing?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 13:43:35 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7909fc30-2e89-405d-8c61-302dac6c4ccd@x17g2000yqa.googlegroups.com>
Source record: 5781
Body handling: HTML body converted to readable text

On 6 feb, 16:58, Bert Hyman wrote:
> I can find tubing with a .120" wall, and I can find it with .058" wall.
>
> For a short run (just a few feet), would there be any significant
> difference in bending resistance between a length of the thick wall stuff
> and one made from two nested thin wall lengths?
>
> Weight's not an issue, nor is price.
>
> --
> Bert Hyman W0RSB St. Paul, MN b...@iphouse.com

Hello Bert,

If I understand you well, the current tube is a nested construction
(one foot). Considering the overall length of the antenna (25 feet),
the bending moment will slightly increase when changing from 1 to
about 2 feet.

If you believe that there will be more clearance between the two tubes
(w.r.t. the current nested tubes), you may fill the clearance with
epoxy resin. This will reduce the risk on buckling significantly.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me in most cases

281. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 18:13:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iga8l6h6rgcfbdnd0jp30v63qelhrasn32@4ax.com>
Source record: 5782

On Thu, 10 Feb 2011 10:39:17 +0100, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>Can a monopole produce "polarisation"?

PolariZation.

A vertical monopole is vertically polarized when viewed in isolation
of other reflectors at a distance of many, many wavelengths.

73's
Richard Clark, KB7QHC

282. Re: new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 18:15:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <una8l690us4479d89mtrrthmb2nfkjtb1p@4ax.com>
Source record: 5783

On Thu, 10 Feb 2011 09:27:30 +0000, MikeV
<MikeV.7997db9@radiobanter.com> wrote:

>I recently bought a great new antenna with 100 mile range radius.

I presume "great" was meant to be ironic. Are you asking how to get a
refund? Simple antennas have ranges into the thousands of miles.

73's
Richard Clark, KB7QHC

283. Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 19:32:55 UTC
From: KG6BAJ <no.spam@no.spam>
Message-ID: <ij1eh7eur1@news.mixmin.net>
Source record: 5784
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

I find it sad that amateur radio operators feel the need to loose respect for each other just because these newsgroups are *mainly* accessed from the internet.

Mention the "internet" aspect of these forums and suddenly people feel it's ok to bash, curse, and make all out war with each other.

I should remind all that these newsgroups are also fed in and out of packet radio BBS stations and read and replied to over RF in nearly all countries utilizing packet BBS's.

Your name calling, cursing and war-ing all go out over the air ways and do nothing to foster and promote the art of amateur radio.

KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
Grass Valley, Ca. USA. CM99LF
Email <-> Packet: kg6baj@gvcity.ampr.org
AMPR Net IP Coordinator - No. Calif.

284. Re: new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 21:54:03 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <7deca185-5034-4fd5-aec1-e277806faa1c@v31g2000vbs.googlegroups.com>
Source record: 5785

On Feb 10, 3:27 am, MikeV <MikeV.7997...@radiobanter.com> wrote:
> I recently bought a great new antenna with 100 mile range radius.

Transmit, or receive?

285. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 22:16:24 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <ij1o3k$oq8$1@speranza.aioe.org>
Source record: 5786
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/10/11 2:32 PM, KG6BAJ wrote:
> I find it sad that amateur radio operators feel the need to loose respect
> for each other just because these newsgroups are *mainly* accessed from the
> internet.
>
> Mention the "internet" aspect of these forums and suddenly people feel it's
> ok to bash, curse, and make all out war with each other.
>
> I should remind all that these newsgroups are also fed in and out of packet
> radio BBS stations and read and replied to over RF in nearly all countries
> utilizing packet BBS's.
>
> Your name calling, cursing and war-ing all go out over the air ways and do
> nothing to foster and promote the art of amateur radio.
>
> KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
> Grass Valley, Ca. USA. CM99LF
> Email <-> Packet: kg6baj@gvcity.ampr.org
> AMPR Net IP Coordinator - No. Calif.

The 'art' of amateur radio?

A bunch of fat, sweaty, socially-maladjusted losers, sitting by themselves in their shacks for hours on end, grousing about how this newfangled interwebnet will never be as useful as the radio they built back in '63 and masturbating furtively over memories of Field Days past?

That's the reality of amateur radio today. As long as there are people like you who continue seeking to use yesterday's technology to solve yesterday's problems, I'll expect more whining along the lines of the above.

Let me spell it out for you: USENET - much like the rest of the Internet - was never intended for transport over amateur radio frequencies. That you (and others) do this is one thing, but pissing and moaning about the content of a medium not covered by FCC or international regulations is, frankly, idiotic on your behalf. Don't like it? Send your own damn traffic out over the airwaves. But don't expect the rest of us to kowtow to your demands.

People wonder why amateur radio is dying. You, my good man, exemplify one reason for that *exceptionally* well.

And, for the benefit of the masses who read USENET via their Icoms, Yaesus, or Kenwoods: FUCK SHIT PISS CUNT DICK BALLS ASS TITS BONER.

73s,

- J.

286. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-10 23:41:19 UTC
From: KG6BAJ <no.spam@no.spam.net>
Message-ID: <ij1t33$to2$2@news.mixmin.net>
Source record: 5787
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

I always love it when a replier is dumb enough to prove my point without so much as even thinking

"John Harbl" <jharbl@harbl.com> wrote in message news:ij1o3k$oq8$1@speranza.aioe.org...
> On 2/10/11 2:32 PM, KG6BAJ wrote:
>> I find it sad that amateur radio operators feel the need to loose respect
>> for each other just because these newsgroups are *mainly* accessed from
>> the
>> internet.
>>
>> Mention the "internet" aspect of these forums and suddenly people feel
>> it's
>> ok to bash, curse, and make all out war with each other.
>>
>> I should remind all that these newsgroups are also fed in and out of
>> packet
>> radio BBS stations and read and replied to over RF in nearly all
>> countries
>> utilizing packet BBS's.
>>
>> Your name calling, cursing and war-ing all go out over the air ways and
>> do
>> nothing to foster and promote the art of amateur radio.
>>
>> KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
>> Grass Valley, Ca. USA. CM99LF
>> Email <-> Packet: kg6baj@gvcity.ampr.org
>> AMPR Net IP Coordinator - No. Calif.
>
> The 'art' of amateur radio?
>
> A bunch of fat, sweaty, socially-maladjusted losers, sitting by
> themselves in their shacks for hours on end, grousing about how this
> newfangled interwebnet will never be as useful as the radio they built
> back in '63 and masturbating furtively over memories of Field Days past?
>
> That's the reality of amateur radio today. As long as there are people
> like you who continue seeking to use yesterday's technology to solve
> yesterday's problems, I'll expect more whining along the lines of the
> above.
>
> Let me spell it out for you: USENET - much like the rest of the Internet

> - was never intended for transport over amateur radio frequencies. That
> you (and others) do this is one thing, but pissing and moaning about the
> content of a medium not covered by FCC or international regulations is,
> frankly, idiotic on your behalf. Don't like it? Send your own damn
> traffic out over the airwaves. But don't expect the rest of us to
> kowtow to your demands.
>
> People wonder why amateur radio is dying. You, my good man, exemplify
> one reason for that *exceptionally* well.
>
> And, for the benefit of the masses who read USENET via their Icoms,
> Yaesus, or Kenwoods: FUCK SHIT PISS CUNT DICK BALLS ASS TITS BONER.
>
> 73s,
>
> - J.

287. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 00:10:06 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <4D547E5E.6010401@harbl.com>
Source record: 5788
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/10/11 6:41 PM, KG6BAJ wrote:

> I always love it when a replier is dumb enough to prove my point without so
> much as even thinking

That was almost a sentence. Keep trying; perhaps you'll get it right
eventually!

Anyway, I now see why you're so deeply concerned about dirty words on
the Internet making it out over the airwaves:

http://groups.yahoo.com/group/BPQ32/message/3118 (May 1, 2010)
http://www.db0anf.de/app/bbs/messages/show-1239_KG6BAJ (May 3, 2010)

As I see it, this leaves you with two options:

- Fix your filters so that they actually work.

- Stop sending USENET posts over the airwaves.

There you go; problem solved.

Also, I'm pretty sure that I forgot to say 'dildo' in my original reply
to you. I'd hate to think that you missed out on my use of the word
'dildo', so here's a use of the word 'dildo' just for you:

DILDO.

73s,

- J.

288. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 00:10:42 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <ij1uq2$8kh$2@speranza.aioe.org>
Source record: 5789
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/10/11 6:41 PM, KG6BAJ wrote:

> I always love it when a replier is dumb enough to prove my point without so
> much as even thinking

That was almost a sentence. Keep trying; perhaps you'll get it right
eventually!

Anyway, I now see why you're so deeply concerned about dirty words on
the Internet making it out over the airwaves:

http://groups.yahoo.com/group/BPQ32/message/3118 (May 1, 2010)
http://www.db0anf.de/app/bbs/messages/show-1239_KG6BAJ (May 3, 2010)

As I see it, this leaves you with two options:

- Fix your filters so that they actually work.

- Stop sending USENET posts over the airwaves.

There you go; problem solved.

Also, I'm pretty sure that I forgot to say 'dildo' in my original reply
to you. I'd hate to think that you missed out on my use of the word
'dildo', so here's a use of the word 'dildo' just for you:

DILDO.

73s,

- J.

289. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 00:11:48 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <ij1urr$88c$1@news.eternal-september.org>
Source record: 5790
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"KG6BAJ" <no.spam@no.spam> wrote in message
news:ij1eh7eur1@news.mixmin.net...
>I find it sad that amateur radio operators feel the need to loose respect
> for each other just because these newsgroups are *mainly* accessed from
> the
> internet.
>
> Mention the "internet" aspect of these forums and suddenly people feel
> it's
> ok to bash, curse, and make all out war with each other.
>
> I should remind all that these newsgroups are also fed in and out of
> packet
> radio BBS stations and read and replied to over RF in nearly all countries
> utilizing packet BBS's.
>
> Your name calling, cursing and war-ing all go out over the air ways and do
> nothing to foster and promote the art of amateur radio.
>
> KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
> Grass Valley, Ca. USA. CM99LF
> Email <-> Packet: kg6baj@gvcity.ampr.org
> AMPR Net IP Coordinator - No. Calif.
>
>
>
Some good points. However, IMHO amateur radio should have no direct
connection to the internet.
Wayne W5GIE

290. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 01:51:07 UTC
From: nm5k@wt.net
Message-ID: <d9f9b41a-45d2-46b1-89f4-4882c99fd223@glegroupsg2000goo.googlegroups.com>
Source record: 5791

On Thursday, February 10, 2011 1:32:55 PM UTC-6, KG6BAJ wrote:

>
> I should remind all that these newsgroups are also fed in and out of packet
> radio BBS stations and read and replied to over RF in nearly all countries
> utilizing packet BBS's.

Why? These people don't have internet access?
>
> Your name calling, cursing and war-ing all go out over the air ways and do
> nothing to foster and promote the art of amateur radio.

If that is the case, you are at fault for broadcasting
such content. It's no fault of the internet.
The internet is not amateur radio, and was never
intended to be.
I know myself, I would never broadcast usenet
content over amateur radio, even if it were all
squeaky clean and politically correct.

Packet? People actually still use it? :/
I never saw the attraction myself, but that's just me.
Packet bored me to unprecedented levels of stupor,
even when it was actually a fairly modern mode of
communication.
But even if I used it, I would not transmit internet
content, unless I was relaying important ARRL bulletins,
emergency health and welfare information, etc.
Transmitting usenet? Never.. Ever.. Nada, Zilch..

291. Re: new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 01:56:08 UTC
From: tom <news4792@taring.org>
Message-ID: <4d549733$0$6701$8046368a@newsreader.iphouse.net>
Source record: 5792

On 2/10/2011 3:27 AM, MikeV wrote:
> I recently bought a great new antenna with 100 mile range radius.
>
> mvoleski@ccf[.]org
>

How does it know where to stop? Programmable photons?

tom
K0TAR

292. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 02:06:28 UTC
From: tom <news4792@taring.org>
Message-ID: <4d5499a0$0$6699$8046368a@newsreader.iphouse.net>
Source record: 5793
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/10/2011 1:32 PM, KG6BAJ wrote:
> I find it sad that amateur radio operators feel the need to loose respect

loose -> lose I know English is a tough language.

> for each other just because these newsgroups are *mainly* accessed from the
> internet.
>
> Mention the "internet" aspect of these forums and suddenly people feel it's
> ok to bash, curse, and make all out war with each other.
>

Some do. Not all. Not even a significant percentage of all. Myself
excepted.

> I should remind all that these newsgroups are also fed in and out of packet
> radio BBS stations and read and replied to over RF in nearly all countries
> utilizing packet BBS's.
>

That is possibly illegal considering you are seemingly not vetting the
content. That would be the equivalent of transmitting porn videos on
70cm ATV and blaming the people who produced the tape/DVD. Moron. I
feel justified on that remark.

> Your name calling, cursing and war-ing all go out over the air ways and do
> nothing to foster and promote the art of amateur radio.

Then don't read it, don't transmit it via packet, print it and post it
on telephone poles on the corner, forward it to coworkers......

Get it yet?

tom
K0TAR

>
> KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
> Grass Valley, Ca. USA. CM99LF
> Email<-> Packet: kg6baj@gvcity.ampr.org
> AMPR Net IP Coordinator - No. Calif.
>
>
>

293. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 02:23:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4d549d95$0$6702$8046368a@newsreader.iphouse.net>
Source record: 5794
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/10/2011 1:32 PM, KG6BAJ wrote:

> Your name calling, cursing and war-ing all go out over the air ways and do

"air ways"? Computer operator.

How about "airwaves" instead?

>
> KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
> Grass Valley, Ca. USA. CM99LF
> Email<-> Packet: kg6baj@gvcity.ampr.org
> AMPR Net IP Coordinator - No. Calif.
>
>
>

294. Re: new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 02:52:33 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <ij289h$rv1$1@speranza.aioe.org>
Source record: 5795

On 2/10/11 4:27 AM, MikeV wrote:
> I recently bought a great new antenna with 100 mile range radius.
>
> mvoleski@ccf[.]org

A 100-mile radius? HOLY SHIT, THAT'S A 200-MILE DIAMETER!

See what I did there? Doubled your range for you FOR FREE.

BUT WAIT, THERE'S *MORE*!

Did I say 200 miles? I must've been coming down from PCP when I did, because I *really* meant THREE HUNDRED AND TWENTY KILOMETRES! That's a number that's 160% *larger* than 200!

Your numbers are now three-point-two times bigger than they were when you started. No need to thank me; just take a shower and we'll call it even.

- J.

295. Re: new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 03:36:02 UTC
From: tom <news4792@taring.org>
Message-ID: <4d54ae9d$0$6703$8046368a@newsreader.iphouse.net>
Source record: 5796

On 2/10/2011 8:52 PM, John Harbl wrote:
> On 2/10/11 4:27 AM, MikeV wrote:
>> I recently bought a great new antenna with 100 mile range radius.
>>
>> mvoleski@ccf[.]org
>
> A 100-mile radius? HOLY SHIT, THAT'S A 200-MILE DIAMETER!
>
> See what I did there? Doubled your range for you FOR FREE.
>
> BUT WAIT, THERE'S *MORE*!
>
> Did I say 200 miles? I must've been coming down from PCP when I did,
> because I *really* meant THREE HUNDRED AND TWENTY KILOMETRES! That's a
> number that's 160% *larger* than 200!
>
> Your numbers are now three-point-two times bigger than they were when
> you started. No need to thank me; just take a shower and we'll call it
> even.
>
> - J.

But wait, there's more! We forgot UP!

Space is just waiting for your misdirected signals!

296. Loop fed yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 04:41:56 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <F9ednd-5c9-OI8nQnZ2dnUVZ_r-dnZ2d@earthlink.com>
Source record: 5797

Has anyone used or tried an antenna like this ?

http://www.g0ksc.co.uk/intro-lfa.html

Called a loop fed yagi. It is mostly a VHF beam where the driven element is a loop. The loop is flat with the boom so it looks similar to an extra element with the ends joined.

There is an example of a 5 element 50 mhz beam. It takes about the same ammount of aluminum to make a 6 element beam. Would this antenna be more of an advantage over a 6 element beam of say the K1FO type ?

297. Re: new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 04:53:21 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <6c7edd10-2e3f-4b55-9d53-6d388033f0e2@o39g2000prb.googlegroups.com>
Source record: 5798

On Feb 10, 1:27 am, MikeV <MikeV.7997...@radiobanter.com> wrote:
> I recently bought a great new antenna with 100 mile range radius.
>
> mvoleski@ccf[.]org
>
> --
> MikeV

Wrong group. You want new.tv.antenna.roof

"Sal"

298. Re: Loop fed yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 06:58:52 UTC
From: dplatt@radagast.org
Message-ID: <ca3f28-0bk.ln1@radagast.org>
Source record: 5799

>Has anyone used or tried an antenna like this ?
>
>http://www.g0ksc.co.uk/intro-lfa.html
>
>Called a loop fed yagi. It is mostly a VHF beam where the driven element is
>a loop. The loop is flat with the boom so it looks similar to an extra
>element with the ends joined.

Hmmm. It's somewhat similar in philosophy to the "quagi" (Yagi-type directors, with a quad-loop driver and reflector, but I think it's even closer to being a Yagi with a folded-dipole driven element (you can think of a folded-dipole DE as being a very-wide-and-shallow loop).

You can follow a progression of these designs, from a Quagi (which uses a square loop DE), to this "loop-fed Yagi", to a standard Yagi fed with a folded dipole driven element, and then to the WA5VJB "Cheap Yagi" with its half-folded dipole driven element. All of these use the folding or looping of the driven element to raise the feedpoint impedance, which would otherwise usually be well below 50 ohms. The shape of the driven element controls the type of impedance transformation you get.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

299. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 07:29:23 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ij2ogo$q5u$2@speranza.aioe.org>
Source record: 5800

```
On 10/02/2011 18:13, Richard Clark wrote:
> On Thu, 10 Feb 2011 10:39:17 +0100, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>> Can a monopole produce "polarisation"?
>
> PolariZation.
>
> A vertical monopole is vertically polarized when viewed in isolation
> of other reflectors at a distance of many, many wavelengths.
>
> 73's
> Richard Clark, KB7QHC

"polarisation" is a perfectly acceptable spelling of the word (except
perhaps in the US).

Jeff
```

300. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 08:33:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d54f465$0$2436$65785112@news.neostrada.pl>
Source record: 5701

Uzytkownik "Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:iga8l6h6rgcfbdnd0jp30v63qelhrasn32@4ax.com...
> On Thu, 10 Feb 2011 10:39:17 +0100, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>Can a monopole produce "polarisation"?
>
> PolariZation.
>
> A vertical monopole is vertically polarized when viewed in isolation
> of other reflectors at a distance of many, many wavelengths.

To be polarized must be the two poles (nodes). Long wire antennas have many
nodes and the directional pattern.
Is it right?
S*

301. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 14:25:49 UTC
From: kludge@panix.com
Message-ID: <ij3gtdiie1@panix2.panix.com>
Source record: 5702
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

What is this thread? Where did it come from, and what is it doing in
rec.radio.amateurs.boatanchors?

We don't care about your packet radio nonsense. If it doesn't have an 807
final at least, it probably doesn't belong in this newsgroup.
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

302. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 14:42:27 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <ij3hsh$m2j$1@speranza.aioe.org>
Source record: 5703
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/11/11 9:25 AM, Scott Dorsey wrote:
> What is this thread? Where did it come from, and what is it doing in
> rec.radio.amateurs.boatanchors?

These are the hard-hitting investigative questions that NOBODY ELSE
DARES TO ASK.

> We don't care about your packet radio nonsense. If it doesn't have an 807
> final at least, it probably doesn't belong in this newsgroup.

YEAH!!!

- J.

303. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 15:35:14 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E896187AD3EVeebleFetzer@216.250.188.140>
Source record: 5704
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

In news:a1545f57-1a0f-4551-a302-050345dc449a@z3g2000prz.googlegroups.com
Oliver <O_Epstein@att.net> wrote:

> On Feb 10, 7:32 pm, "KG6BAJ" <no.s...@no.spam> wrote:
>
>> I find it sad that amateur radio operators feel the need to loose
>> respect
>
> I find it sad so many people can't spell "lose."
>
>> I should remind all that these newsgroups are also fed in and out of
>> packet radio BBS stations and read and replied to over RF in nearly
>> all countries utilizing packet BBS's.
>
> I find it sad that amateur radio operators would use packet for usenet
> traffic.

Sadder yet is the fact that the OP doesn't seem to realize that it's the responsibility of the control operator of the originating system to make sure that the traffic is suitable for sending over amateur radio.

And saddest of all is the OP's seemingly random selection of newsgroups, especially when he chose to identify himself as "no.spam@no.spam."

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

304. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 16:38:24 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4d5565ff$0$1351$4fafbaef@reader2.news.tin.it>
Source record: 5705

Hi everyone,

better be prudent when challenging a Polish on mathematical issues!

http://www.codesandciphers.org.uk/virtualbp/poles/poles.htm

Tony I0JX
Rome, Italy

305. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 19:38:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <cb5c3a25-ee7c-4a5a-97de-316b9a029401@d23g2000prj.googlegroups.com>
Source record: 5706

On Feb 11, 4:38 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
> Hi everyone,
>
> better be prudent when challenging a Polish on mathematical issues!
>
> http://www.codesandciphers.org.uk/virtualbp/poles/poles.htm
>
> Tony I0JX
> Rome, Italy

somehow i don't think mr.b is in that class.

306. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 20:04:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q85bl6h8rkufpvlbp5600rf2uhmemctijr@4ax.com>
Source record: 5707

On Fri, 11 Feb 2011 09:33:34 +0100, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>To be polarized must be the two poles (nodes)

The tip of a monopole and its base are its two nodes. A monopole is
polarized.

This is a very simple lesson to learn.

73's
Richard Clark, KB7QHC

307. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-11 21:26:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6babl6tg98gc1j98bh8um7hfav58vc857d@4ax.com>
Source record: 5708
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On Thu, 10 Feb 2011 15:41:19 -0800, "KG6BAJ" <no.spam@no.spam.net>
wrote:

>I always love it when a replier is dumb enough to prove my point without so
>much as even thinking

Please stop crossposting this spam.

73's
Richard Clark, KB7QHC

308. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 00:02:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c4e685c4-6afc-4f93-b8bc-5bda153b1cb2@l11g2000yqb.googlegroups.com>
Source record: 5709

On Feb 11, 8:04 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 11 Feb 2011 09:33:34 +0100, "Szczepan Bialek"
>
> <sz.bia...@wp.pl> wrote:
> >To be polarized must be the two poles (nodes)
>
> The tip of a monopole and its base are its two nodes. A monopole is
> polarized.
>
> This is a very simple lesson to learn.
>
> 73's
> Richard Clark, KB7QHC

but, but, but, the base is a voltage minimum, not the opposite peak voltage of the top!!! how can that form two nodes to make the electrons jump opposite directions? this just can't be true! this must only be half polarity polarisation.

309. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 00:13:14 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <ij4jarabg1@speranza.aioe.org>
Source record: 5710
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/11/11 4:26 PM, Richard Clark wrote:
> On Thu, 10 Feb 2011 15:41:19 -0800, "KG6BAJ" <no.spam@no.spam.net>
> wrote:
>
>> I always love it when a replier is dumb enough to prove my point without so
>> much as even thinking
>
> Please stop crossposting this spam.
>
> 73's
> Richard Clark, KB7QHC

It was all over and done with until you decided to stick your nose in.

YOU HAVE NOW WASHED OUT OF THE USENET POLICE ACADEMY. WELL DONE.

- J.

310. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 01:05:48 UTC
From: tom <news4792@taring.org>
Message-ID: <4d55dce7$0$87591$8046368a@newsreader.iphouse.net>
Source record: 5711
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

```
On 2/10/2011 8:23 PM, tom wrote:
> On 2/10/2011 1:32 PM, KG6BAJ wrote:
>
>> Your name calling, cursing and war-ing all go out over the air ways
>> and do
>
> "air ways"? Computer operator.
>
> How about "airwaves" instead?
>
>>
>> KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
>> Grass Valley, Ca. USA. CM99LF
>> Email<-> Packet: kg6baj@gvcity.ampr.org
>> AMPR Net IP Coordinator - No. Calif.
>>
>>
>>
>

Hmm, I think we scared him away. No loss. I doubt he knows what
propagation is about or why some antennas are longer than 19 inches.

tom
K0TAR
```

311. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 01:46:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n2pbl6h129opr3fres80nm3h8bt4e691vf@4ax.com>
Source record: 5712

>> <sz.bia...@wp.pl> wrote:
>> >To be polarized must be the two poles (nodes)
>>
>> The tip of a monopole and its base are its two nodes. ï¿½A monopole is
>> polarized.
>>
>> This is a very simple lesson to learn.

>but, but, but, the base is a voltage minimum, not the opposite peak
>voltage of the top!!! how can that form two nodes to make the
>electrons jump opposite directions? this just can't be true! this
>must only be half polarity polarisation.

What? Is this Oliver Twist in reverse polish notation?

"Please, sir, can I have another node?"

Yes, you have fully anticipated an objection in its juvenile form.
This can be countered (after asking for a hand to be held out for
switching):
Pick any potential reference point along the
length of the quarter wave monopole;
every point above it will have the opposite polarity
of any point below it - ergo, two nodes are described
each on either side of the reference.

I hope I don't have to explain that using batteries and resistors (it
may present a challenge in introducing advanced electronic concepts).

73's
Richard Clark, KB7QHC

312. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 04:36:50 UTC
From: ka7niq <ka7niq.79bcc58@radiobanter.com>
Message-ID: <ka7niq.79bcc58@radiobanter.com>
Source record: 5713

'John Ferrell[_2_ Wrote:
> ;727685']On Fri, 31 Dec 2010 08:53:32 -0800 (PST), K1TTT k1ttt@arrl.net
> wrote:
> -
> On Dec 31, 4:01*pm, John Ferrell jferrel...@triad.rr.com wrote:-
> I am helping to install a 135 foot dipole on a hillside for HF
> activity. The antenna will be at least 45 feet from the ground in any
> direction. I can believe EZNEC so far as the effects of ground on
> impedance. but I am at a loss when it comes to considering the
> patterns on the various bands. The ridge is about 200 feet from the
> antenna.
>
> This is for a club member who recently upgraded to General Class.
>
> Since the ridge is close to the same height and south of the antenna,
> I am guessing that the computed charts will be a good representation
> of the northern half of the antenna. NVIS should not change much. The
> terrain may work as a reflector for over the pole operation. I am
> afraid the antenna will be of little use to the south.
>
> I expect we will eventually need to do the best we can with an antenna
> on the top of the ridge. When the snow melts I will try to climb the
> ridge for a look-see. It will likely be difficult to install due the
> dense trees.
>
> Any comments, advice, suggestions etc. are appreciated!
> John Ferrell W8CCW-
>
> just put it up, hook up a tuner if the radio doesn't have one, and
> have fun. you can spend all your time modeling trying to figure out
> what it may look like, but if you are limited on how you can install
> it you can't really control much anyway. an antenna laying on the
> ground works much better than one that is only in your computer!-
>
> No argument from me! It is going up as planned as soon as the new
> General gets a little more time to work with me on the project.
>
> The hillside we are working on is a little tricky for us to deal with
> while snow covered but in this part of North Carolina it does not snow
> often or stay long.
>
> We need to keep his enthusiasm up with some positive results.
>
> John Ferrell W8CCW

I agree, just put it up, feed it with open wire feeders, tune it and talk. What you get is what you get.

--
ka7niq

313. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 08:55:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d564b1d$0$2443$65785112@news.neostrada.pl>
Source record: 5714

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:c4e685c4-6afc-4f93-b8bc-5bda153b1cb2@l11g2000yqb.googlegroups.com...
On Feb 11, 8:04 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 11 Feb 2011 09:33:34 +0100, "Szczepan Bialek"
>
> <sz.bia...@wp.pl> wrote:
>> >To be polarized must be the two poles (nodes)
>
>> The tip of a monopole and its base are its two nodes. A monopole is
> polarized.
>
>> This is a very simple lesson to learn.

>but, but, but, the base is a voltage minimum, not the opposite peak
voltage of the top!!! how can that form two nodes to make the
electrons jump opposite directions? this just can't be true! this
must only be half polarity polarisation.

Half polarity = no polarity.

The field emission take place where the voltage exists. But at the end the
voltage is doubled (standing wave). So the strong radiation is only from the
nodes.
S*

314. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 09:15:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d564fd0$0$2456$65785112@news.neostrada.pl>
Source record: 5715

Uzytkownik "Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:n2pbl6h129opr3fres80nm3h8bt4e691vf@4ax.com...
>>> <sz.bia...@wp.pl> wrote:
>>> >To be polarized must be the two poles (nodes)
>>>
>>> The tip of a monopole and its base are its two nodes. A monopole is
>>> polarized.
>>>
>>> This is a very simple lesson to learn.
>
>>but, but, but, the base is a voltage minimum, not the opposite peak
>>voltage of the top!!! how can that form two nodes to make the
>>electrons jump opposite directions? this just can't be true! this
>>must only be half polarity polarisation.
>
> What? Is this Oliver Twist in reverse polish notation?
>
> "Please, sir, can I have another node?"
>
> Yes, you have fully anticipated an objection in its juvenile form.
> This can be countered (after asking for a hand to be held out for
> switching):
> Pick any potential reference point along the
> length of the quarter wave monopole;
> every point above it will have the opposite polarity
> of any point below it - ergo, two nodes are described
> each on either side of the reference.

Such situation is also close to the base. But there no voltage. No voltage
no field emission. On the quarter wave monopole is only one place with very,
very high voltage. The dipole has the two.
>
> I hope I don't have to explain that using batteries and resistors (it
> may present a challenge in introducing advanced electronic concepts).

The "shape" of the node effects the emission. Thin wire radiate in different
direction than a hat .
But in the elongated node every point have the same polarity.

Faraday is great.
S*

315. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 12:55:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8b2dd1f2-465f-4d61-a9d5-fcda59e3f064@v31g2000vbs.googlegroups.com>
Source record: 5716

On Feb 12, 8:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:c4e685c4-6afc-4f93-b8bc-5bda153b1cb2@l11g2000yqb.googlegroups.com...
> On Feb 11, 8:04 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > On Fri, 11 Feb 2011 09:33:34 +0100, "Szczepan Bialek"
>
> > <sz.bia...@wp.pl> wrote:
> >> >To be polarized must be the two poles (nodes)
>
> >> The tip of a monopole and its base are its two nodes. A monopole is
> > polarized.
>
> >> This is a very simple lesson to learn.
> >but, but, but, the base is a voltage minimum, not the opposite peak
>
> voltage of the top!!! how can that form two nodes to make the
> electrons jump opposite directions? this just can't be true! this
> must only be half polarity polarisation.
>
> Half polarity = no polarity.
>
> The field emission take place where the voltage exists. But at the end the
> voltage is doubled (standing wave). So the strong radiation is only from the
> nodes.
> S*

so if there is only a single high voltage point at the top how is it
vertically polarized and how does it radiate at all without the other
half of the dipole?

316. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 12:56:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0e2d6b69-1909-4a56-9721-741885a3d569@t8g2000vbd.googlegroups.com>
Source record: 5717

On Feb 12, 9:15 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Richard Clark" <kb7...@comcast.net> napisal w
wiadomoscinews:n2pbl6h129opr3fres80nm3h8bt4e691vf@4ax.com...
>
>
>
> >>> <sz.bia...@wp.pl> wrote:
> >>> >To be polarized must be the two poles (nodes)
>
> >>> The tip of a monopole and its base are its two nodes. A monopole is
> >>> polarized.
>
> >>> This is a very simple lesson to learn.
>
> >>but, but, but, the base is a voltage minimum, not the opposite peak
> >>voltage of the top!!! how can that form two nodes to make the
> >>electrons jump opposite directions? this just can't be true! this
> >>must only be half polarity polarisation.
>
> > What? Is this Oliver Twist in reverse polish notation?
>
> > "Please, sir, can I have another node?"
>
> > Yes, you have fully anticipated an objection in its juvenile form.
> > This can be countered (after asking for a hand to be held out for
> > switching):
> > Pick any potential reference point along the
> > length of the quarter wave monopole;
> > every point above it will have the opposite polarity
> > of any point below it - ergo, two nodes are described
> > each on either side of the reference.
>
> Such situation is also close to the base. But there no voltage. No voltage
> no field emission. On the quarter wave monopole is only one place with very,
> very high voltage. The dipole has the two.
>
>
>
> > I hope I don't have to explain that using batteries and resistors (it
> > may present a challenge in introducing advanced electronic concepts).
>
> The "shape" of the node effects the emission. Thin wire radiate in different
> direction than a hat .
> But in the elongated node every point have the same polarity.

>
> Faraday is great.
> S*

but on the other half of the sine wave the polarity is reversed...
then what happens? do the electrons get sucked back in?

317. Re: Loop fed yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 13:41:25 UTC
From: ka7niq <ka7niq.79c7519@radiobanter.com>
Message-ID: <ka7niq.79c7519@radiobanter.com>
Source record: 5719

Dave Platt;732351 Wrote:
> Has anyone used or tried an antenna like this ?-
>
> http://www.g0ksc.co.uk/intro-lfa.html
>
> Called a loop fed yagi. It is mostly a VHF beam where the driven
> element is
> a loop. The loop is flat with the boom so it looks similar to an extra
>
> element with the ends joined.-
>
> Hmmm. It's somewhat similar in philosophy to the "quagi" (Yagi-type
> directors, with a quad-loop driver and reflector, but I think it's
> even closer to being a Yagi with a folded-dipole driven element (you
> can think of a folded-dipole DE as being a very-wide-and-shallow
> loop).
>
> You can follow a progression of these designs, from a Quagi (which
> uses a square loop DE), to this "loop-fed Yagi", to a standard Yagi
> fed with a folded dipole driven element, and then to the WA5VJB "Cheap
> Yagi" with its half-folded dipole driven element. All of these use
> the folding or looping of the driven element to raise the feedpoint
> impedance, which would otherwise usually be well below 50 ohms. The
> shape of the driven element controls the type of impedance
> transformation you get.
>
> --
> Dave Platt dplatt@radagast.org AE6EO
> Friends of Jade Warrior home page:
> http://www.radagast.org/jade-warrior
> I do _not_ wish to receive unsolicited commercial email, and I will
> boycott any company which has the gall to send me such ads!

That new antenna company Innova is making them

--
ka7niq

318. SEXY HOT GIRLS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 15:01:47 UTC
From: SRAVANTHI LOVE <sravanthi.sravya24@gmail.com>
Message-ID: <1148fb2f-46c0-4758-875b-94e10d939870@j9g2000prj.googlegroups.com>
Source record: 5718

```ONLY HOT VIDEOS FOR YOUTH````

HOT VIDEOS
http://sexy-rainsongs.blogspot.com/
FUNNY VIDEOS
http://sexy-rainsongs.blogspot.com/p/funny-video.html
TELUGU FUNNY VIDEOS
http://sexy-rainsongs.blogspot.com/p/telugu-funny-videos.html

DEEPIKA PADUKONE HOT VIDEOS
http://karomasti9.blogspot.com/2011/01/deepika-padukone.html
HOT ARCHANA STILLS
http://karomasti9.blogspot.com/2011/01/archana.html
DEEKSHA SETH HOT WALLPAPERS
http://karomasti9.blogspot.com/2011/01/deeksha-seth.html
KATRINA KAIF HOT VIDEOS&PHOTOS
http://karomasti9.blogspot.com/2011/01/katrina-kaif.html
SAMEERAREDDY HOT BOOBS
http://karomasti9.blogspot.com/2011/01/sameerareddy.html
```

319. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 18:06:58 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d56cc48$0$2487$65785112@news.neostrada.pl>
Source record: 5720

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:0e2d6b69-1909-4a56-9721-741885a3d569@t8g2000vbd.googlegroups.com...
On Feb 12, 9:15 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> The "shape" of the node effects the emission. Thin wire radiate in
>> different
> direction than a hat .
>> But in the elongated node every point have the same polarity.
>

>but on the other half of the sine wave the polarity is reversed...
then what happens? do the electrons get sucked back in?

Of course. But the longitudine waves transport mass (electrons) and are not
symmetric. Jumping off is stronger than sucking back.
Tesla discovered the catode rays (electrons) jumping off from the antenna
end. It is the net DC ground current. Why you do not to measure it.
It is known how to collect the catode rays.
S*

320. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 18:23:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d56d014$0$2439$65785112@news.neostrada.pl>
Source record: 5721

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:8b2dd1f2-465f-4d61-a9d5-fcda59e3f064@v31g2000vbs.googlegroups.com...
On Feb 12, 8:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> The field emission take place where the voltage exists. But at the end
>> the
> voltage is doubled (standing wave). So the strong radiation is only from
> the
> nodes.
> S*

>so if there is only a single high voltage point at the top how is it
vertically polarized and how does it radiate at all without the other
half of the dipole?

You probably have seen the CB radio. On the end of the whip is alternate
high voltage. It radiate the longitudinal electric waves. The other half of
a dipole is chassis (car). Is there any polarisation?
S*

321. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 19:51:30 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <ij6obuavf1@speranza.aioe.org>
Source record: 5722
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/12/11 2:30 AM, Jim Higgins wrote:

>> Hmm, I think we scared him away. No loss. I doubt he knows what
>> propagation is about or why some antennas are longer than 19 inches.
>
>
> Whether he knows these things or not is immaterial. What we saw in
> action there was personal interest placed before common sense. If you
> missed that, look again at the last line of his credentials under his
> signature. "Amateur Packet Radio Net IP Coordinator" pretty much
> gives away the agenda, doesn't it?

http://www.qrz.com/db/KG6BAJ

That should explain things a bit more - it's really sounding like he's spent a little too much time with the TNC. I've seen this happen before when someone doesn't unplug themselves from the shack.

KG6BAJ, if you're reading this, spend some time away from the radios. It'll help to readjust your perspective.

- J.

322. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 19:58:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7bd7ea86-3f64-4b86-9c68-7e1e7744f422@a5g2000vbs.googlegroups.com>
Source record: 5723

On Feb 12, 6:06 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:0e2d6b69-1909-4a56-9721-741885a3d569@t8g2000vbd.googlegroups.com...
> On Feb 12, 9:15 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> The "shape" of the node effects the emission. Thin wire radiate in
> >> different
> > direction than a hat .
> >> But in the elongated node every point have the same polarity.
>
> >but on the other half of the sine wave the polarity is reversed...
>
> then what happens? do the electrons get sucked back in?
>
> Of course. But the longitudine waves transport mass (electrons) and are not
> symmetric. Jumping off is stronger than sucking back.
> Tesla discovered the catode rays (electrons) jumping off from the antenna
> end. It is the net DC ground current. Why you do not to measure it.
> It is known how to collect the catode rays.
> S*

i have tried, there is no dc ground current.

323. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 20:14:06 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnildqcp.7eo.gsm@cable.mendelson.com>
Source record: 5724

Bert Hyman wrote:
> And saddest of all is the OP's seemingly random selection of newsgroups,
> especially when he chose to identify himself as "no.spam@no.spam."

I've figured this out. :-)

The original posting is from 1995, when people still cared about packet radio
and to many usenet was new and exciting. The reason it took so long is that
it was behind a posting of a shack photo sent as a .BMP (windows bitmap file)
and it took 15 years to be transmitted.

It then ended up in packet to usenet gateway, which added the modern headers.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Those who cannot remember the past are condemned to misquote it.

324. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 22:17:50 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <7o1el6thldmrt8kp5vaghk0m85kn23t7f4@4ax.com>
Source record: 5725
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On Thu, 10 Feb 2011 17:16:24 -0500, John Harbl <jharbl@harbl.com>
wrote:

>On 2/10/11 2:32 PM, KG6BAJ wrote:
>> I find it sad that amateur radio operators feel the need to loose respect
>> for each other just because these newsgroups are *mainly* accessed from the
>> internet.
>>
>> Mention the "internet" aspect of these forums and suddenly people feel it's
>> ok to bash, curse, and make all out war with each other.
>>
>> I should remind all that these newsgroups are also fed in and out of packet
>> radio BBS stations and read and replied to over RF in nearly all countries
>> utilizing packet BBS's.
>>
>> Your name calling, cursing and war-ing all go out over the air ways and do
>> nothing to foster and promote the art of amateur radio.
>>
>> KG6BAJ (BILL) KG6BAJ.#NCA.CA.USA.NOAM
>> Grass Valley, Ca. USA. CM99LF
>> Email <-> Packet: kg6baj@gvcity.ampr.org
>> AMPR Net IP Coordinator - No. Calif.
>
>The 'art' of amateur radio?
>
>A bunch of fat, sweaty, socially-maladjusted losers, sitting by
>themselves in their shacks for hours on end, grousing about how this
>newfangled interwebnet will never be as useful as the radio they built
>back in '63 and masturbating furtively over memories of Field Days past?
>
>That's the reality of amateur radio today. As long as there are people
>like you who continue seeking to use yesterday's technology to solve
>yesterday's problems, I'll expect more whining along the lines of the above.
>
>Let me spell it out for you: USENET - much like the rest of the Internet
>- was never intended for transport over amateur radio frequencies. That
>you (and others) do this is one thing, but pissing and moaning about the
>content of a medium not covered by FCC or international regulations is,
>frankly, idiotic on your behalf. Don't like it? Send your own damn
>traffic out over the airwaves. But don't expect the rest of us to
>kowtow to your demands.
>
>People wonder why amateur radio is dying. You, my good man, exemplify

>one reason for that *exceptionally* well.
>
>And, for the benefit of the masses who read USENET via their Icoms,
>Yaesus, or Kenwoods: FUCK SHIT PISS CUNT DICK BALLS ASS TITS BONER.
>
>73s,
>
>- J.

Feel better now?

325. Re: Loop fed yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-12 23:41:14 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <7b37e682-d7c3-40af-8c1e-cf35dd27cd60@k22g2000yqh.googlegroups.com>
Source record: 5726

On Feb 11, 1:58 am, dpl...@radagast.org (Dave Platt) wrote:
> >Has anyone used or tried an antenna like this ?
>
> >http://www.g0ksc.co.uk/intro-lfa.html
>
> >Called a loop fed yagi. It is mostly a VHF beam where the driven element is
> >a loop. The loop is flat with the boom so it looks similar to an extra
> >element with the ends joined.
>
> Hmmm. It's somewhat similar in philosophy to the "quagi" (Yagi-type
> directors, with a quad-loop driver and reflector, but I think it's
> even closer to being a Yagi with a folded-dipole driven element (you
> can think of a folded-dipole DE as being a very-wide-and-shallow
> loop).
>
> You can follow a progression of these designs, from a Quagi (which
> uses a square loop DE), to this "loop-fed Yagi", to a standard Yagi
> fed with a folded dipole driven element, and then to the WA5VJB "Cheap
> Yagi" with its half-folded dipole driven element. All of these use
> the folding or looping of the driven element to raise the feedpoint
> impedance, which would otherwise usually be well below 50 ohms. The
> shape of the driven element controls the type of impedance
> transformation you get.
>
> --
> Dave Platt <dpl...@radagast.org>   AE6EO
> Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
>   I do _not_ wish to receive unsolicited commercial email, and I will
>   boycott any company which has the gall to send me such ads!

Dave I agree with you on the evolution from a folded dipole. Wonder
what this design does for gain and F/B. How do check an N connector to
see if you put it together right? Draw any blood lately?

Jimmie

326. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-13 00:02:02 UTC
From: John Harbl <jharbl@harbl.com>
Message-ID: <ij771q$f2j$2@speranza.aioe.org>
Source record: 5727
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On 2/12/11 5:17 PM, Kickin' Ass and Takin' Names wrote:

> Feel better now?

Like a Viagra addict in a Marseilles cathouse!

- J.

327. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-13 00:22:50 UTC
From: tom <news4792@taring.org>
Message-ID: <4d572454$0$87583$8046368a@newsreader.iphouse.net>
Source record: 5728

On 2/12/2011 12:06 PM, Szczepan Bialek wrote:

> Of course. But the longitudine waves transport mass (electrons) and are not
> symmetric. Jumping off is stronger than sucking back.

Tesla is not applicable here, an antenna is not a cathode and does not act like one. Neither is it made of a material that is cathodic at room temperature.

So where else does it say the current is asymmetrical?

tom
K0TAR

328. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-13 00:27:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4d57257a$0$6699$8046368a@newsreader.iphouse.net>
Source record: 5729

On 2/12/2011 12:23 PM, Szczepan Bialek wrote:
> "K1TTT"<k1ttt@arrl.net> napisal w wiadomosci
> news:8b2dd1f2-465f-4d61-a9d5-fcda59e3f064@v31g2000vbs.googlegroups.com...
> On Feb 12, 8:55 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>
>>> The field emission take place where the voltage exists. But at the end
>>> the
>> voltage is doubled (standing wave). So the strong radiation is only from
>> the
>> nodes.
>> S*
>
>> so if there is only a single high voltage point at the top how is it
> vertically polarized and how does it radiate at all without the other
> half of the dipole?
>
> You probably have seen the CB radio. On the end of the whip is alternate
> high voltage. It radiate the longitudinal electric waves. The other half of
> a dipole is chassis (car). Is there any polarisation?
> S*
>
>

There sure is. It is typical to see 20dB or so loss when you rotate a
dipole receiving from a vertical ground plane CB antenna from vertical
to horizontal.

From a car it may not be truly vertical because of the body, but it is
still easy to detect.

tom
K0TAR

329. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-13 10:18:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d57b013$0$2443$65785112@news.neostrada.pl>
Source record: 5730

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4d572454$0$87583$8046368a@newsreader.iphouse.net...
> On 2/12/2011 12:06 PM, Szczepan Bialek wrote:
>
>> Of course. But the longitudine waves transport mass (electrons) and are
>> not
>> symmetric. Jumping off is stronger than sucking back.
>
> Tesla is not applicable here, an antenna is not a cathode and does not act
> like one. Neither is it made of a material that is cathodic at room
> temperature.

Field emission works at each temperature and each material. It is voltage
and temperature dependent. Also: "How would the ideal field emitter look
like? It should be very long and very thin, made of conductive material with
high mechanical strength, be robust, and cheap and easy to process."
>
> So where else does it say the current is asymmetrical?

The emission current from AC lines is. But there the electrons flow to
ground. In the lines no open circuit.
In open circuit the voltage is doubled (at least) at the end. If some
electrons jump off than the suction voltage is lower. If an antenna radiate
the VSWR is low = some electrons do not come back.

In the giant Warsaw dipole was: "In the lower half of the mast, there was a
vertical steel tube, attached to the mast's outer structure with large
insulators. This tube was grounded at the bottom, and connected electrically
to the mast structure at half the total height. This technique works by
applying a DC ground at a point of minimum radiofrequency voltage,
conducting static charge to ground without diminishing the radio energy.
Static electrical charge can build up to high values, even at times of no
thunderstorm activity, when such tall structures are insulated from ground.

Guess why the static charge is build up?

S*

330. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-13 10:38:04 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d57b491$0$2492$65785112@news.neostrada.pl>
Source record: 5731

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4d57257a$0$6699$8046368a@newsreader.iphouse.net...
> On 2/12/2011 12:23 PM, Szczepan Bialek wrote:
>> "K1TTT"<k1ttt@arrl.net> napisal w wiadomosci
>> news:8b2dd1f2-465f-4d61-a9d5-fcda59e3f064@v31g2000vbs.googlegroups.com...
>> On Feb 12, 8:55 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>>
>>>> The field emission take place where the voltage exists. But at the end
>>>> the
>>> voltage is doubled (standing wave). So the strong radiation is only from
>>> the
>>> nodes.
>>> S*
>>
>>> so if there is only a single high voltage point at the top how is it
>> vertically polarized and how does it radiate at all without the other
>> half of the dipole?
>>
>> You probably have seen the CB radio. On the end of the whip is alternate
>> high voltage. It radiate the longitudinal electric waves. The other half
>> of
>> a dipole is chassis (car). Is there any polarisation?
>> S*
>>
>>
>
> There sure is. It is typical to see 20dB or so loss when you rotate a
> dipole receiving from a vertical ground plane CB antenna from vertical to
> horizontal.

The transmmiting "cold catode" is thin and long. It radiate the alternate
electric field perpendicular to its length. Receiving antenna also have the
best direction to collect electrons.
>
> From a car it may not be truly vertical because of the body, but it is
> still easy to detect.

Polarisation is linear, circular, eleptical. Could you produce it by
rotation of monopole?
S*

331. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-13 13:49:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a6aa3153-123f-4839-97dd-11f401376642@f21g2000vbg.googlegroups.com>
Source record: 5732

On Feb 13, 10:18 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "tom" <news4...@taring.org> napisal w
wiadomoscinews:4d572454$0$87583$8046368a@newsreader.iphouse.net...
>
> > On 2/12/2011 12:06 PM, Szczepan Bialek wrote:
>
> >> Of course. But the longitudine waves transport mass (electrons) and are
> >> not
> >> symmetric. Jumping off is stronger than sucking back.
>
> > Tesla is not applicable here, an antenna is not a cathode and does not act
> > like one. Neither is it made of a material that is cathodic at room
> > temperature.
>
> Field emission works at each temperature and each material. It is voltage
> and temperature dependent. Also: "How would the ideal field emitter look
> like? It should be very long and very thin, made of conductive material with
> high mechanical strength, be robust, and cheap and easy to process."
>
>
>
> > So where else does it say the current is asymmetrical?
>
> The emission current from AC lines is. But there the electrons flow to
> ground. In the lines no open circuit.
> In open circuit the voltage is doubled (at least) at the end. If some
> electrons jump off than the suction voltage is lower. If an antenna radiate
> the VSWR is low = some electrons do not come back.
>
> In the giant Warsaw dipole was: "In the lower half of the mast, there was a
> vertical steel tube, attached to the mast's outer structure with large
> insulators. This tube was grounded at the bottom, and connected electrically
> to the mast structure at half the total height. This technique works by
> applying a DC ground at a point of minimum radiofrequency voltage,
> conducting static charge to ground without diminishing the radio energy.
> Static electrical charge can build up to high values, even at times of no
> thunderstorm activity, when such tall structures are insulated from ground.
>
> Guess why the static charge is build up?
>
> S*

if there is any breeze: http://en.wikipedia.org/wiki/Triboelectric_effect

or just the clear air electric field: "In fine weather, the potential
increases with altitude at the rate, according to some writers, of
about 30 volts per foot (100 V/m).[3]"
from http://en.wikipedia.org/wiki/Atmospheric_electricity

332. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-13 13:51:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <68d006c4-1035-4e65-b3b0-328a39731e84@r4g2000vbq.googlegroups.com>
Source record: 5733

On Feb 13, 10:38 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "tom" <news4...@taring.org> napisal w
wiadomoscinews:4d57257a$0$6699$8046368a@newsreader.iphouse.net...
>
>
>
> > On 2/12/2011 12:23 PM, Szczepan Bialek wrote:
> >> "K1TTT"<k1...@arrl.net> napisal w wiadomosci
> >>news:8b2dd1f2-465f-4d61-a9d5-fcda59e3f064@v31g2000vbs.googlegroups.com...
> >> On Feb 12, 8:55 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>
> >>>> The field emission take place where the voltage exists. But at the end
> >>>> the
> >>> voltage is doubled (standing wave). So the strong radiation is only from
> >>> the
> >>> nodes.
> >>> S*
>
> >>> so if there is only a single high voltage point at the top how is it
> >> vertically polarized and how does it radiate at all without the other
> >> half of the dipole?
>
> >> You probably have seen the CB radio. On the end of the whip is alternate
> >> high voltage. It radiate the longitudinal electric waves. The other half
> >> of
> >> a dipole is chassis (car). Is there any polarisation?
> >> S*
>
> > There sure is. It is typical to see 20dB or so loss when you rotate a
> > dipole receiving from a vertical ground plane CB antenna from vertical to
> > horizontal.
>
> The transmmiting "cold catode" is thin and long. It radiate the alternate
> electric field perpendicular to its length. Receiving antenna also have the
> best direction to collect electrons.
>
>
>
> > From a car it may not be truly vertical because of the body, but it is
> > still easy to detect.
>
> Polarisation is linear, circular, eleptical. Could you produce it by
> rotation of monopole?
> S*

you can create any direction of linear polarization by rotating a monopole.

333. Re: Loop fed yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-14 01:51:59 UTC
From: Art Unwin <ArthurUnwin@gmail.com>
Message-ID: <06ad9744-1b09-4b75-baa1-feb33684ad17@glegroupsg2000goo.googlegroups.com>
Source record: 5734

I did something like that over a decade ago under
A constant impedance antenna system
patent application.
What I did was to capacity couple a dipole arrangement
which I placed very close to a antenna array to get a
constant impedance. The final set up comprises then of two occillators. This coupling
method was picked up by a lot of people
because of its attribute of removing noise via
capacitive coupling. Basically the connecting impedance
point travelled along the length of the feed dipole
which also provided a broader bandwidth with a stable
impedance.

334. Re: Loop fed yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-14 03:03:31 UTC
From: tom <news4792@taring.org>
Message-ID: <4d589b82$0$87580$8046368a@newsreader.iphouse.net>
Source record: 5735

On 2/13/2011 7:51 PM, Art Unwin wrote:
> I did something like that over a decade ago under
> A constant impedance antenna system
> patent application.
> What I did was to capacity couple a dipole arrangement
> which I placed very close to a antenna array to get a
> constant impedance. The final set up comprises then of two occillators. This coupling method was picked up by a lot of people
> because of its attribute of removing noise via
> capacitive coupling. Basically the connecting impedance
> point travelled along the length of the feed dipole
> which also provided a broader bandwidth with a stable
> impedance.

"picked up by a lot of people because of its attribute of removing noise"

Hmm, never heard of it. If it's now effectively spread across the antenna and amateur radio world, pray tell, how does it work? Be specific, give examples.

Bet you can't.

Because never prove anything, ever. No examples with numerical values available. Well, except that weird piece of crap yagi-ish thing you once published here. The "pickup-sticks yagi" Not a particularly good antenna performance wise. Ok, lousy.

tom
K0TAR

335. Re: new antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-14 03:23:13 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <qe16p.7987$Bv7.653@newsfe12.iad>
Source record: 5736

Perhaps I could interest you in a Bridge I have for sale.

Irv VE6BP

336. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-14 10:26:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d590348$0$2499$65785112@news.neostrada.pl>
Source record: 5737

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:a6aa3153-123f-4839-97dd-11f401376642@f21g2000vbg.googlegroups.com...
On Feb 13, 10:18 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> In the giant Warsaw dipole was: "In the lower half of the mast, there was
>> a
> vertical steel tube, attached to the mast's outer structure with large
> insulators. This tube was grounded at the bottom, and connected
> electrically
> to the mast structure at half the total height. This technique works by
> applying a DC ground at a point of minimum radiofrequency voltage,
> conducting static charge to ground without diminishing the radio energy.
> Static electrical charge can build up to high values, even at times of no
> thunderstorm activity, when such tall structures are insulated from
> ground.
>
>> Guess why the static charge is build up?
>
> S*

>if there is any breeze: http://en.wikipedia.org/wiki/Triboelectric_effect

>or just the clear air electric field: "In fine weather, the potential
increases with altitude at the rate, according to some writers, of
about 30 volts per foot (100 V/m).[3]"
from http://en.wikipedia.org/wiki/Atmospheric_electricity

You invented a new power plant. But what voltage will be there in fine
weather? In conductor must be the same. Will it be like at bottom or as at
the top or in the middle?

The sentence "when such tall structures are insulated from ground" is wrong.
Should be: "when such dipole works".
S*
>

337. intersting site

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-14 12:48:01 UTC
From: muthu raja <muthr90@gmail.com>
Message-ID: <d57ad46f-8e31-4717-adeb-1ac30df629ec@x4g2000prf.googlegroups.com>
Source record: 5738

http://raja-forex.blogspot.com/
http://ajith-raja.blogspot.com/
http://rajini-raja.blogspot.com/
http://raja-dna.blogspot.com/
http://nanotec-raja.blogspot.com/

338. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-14 17:44:09 UTC
From: YarTransAvto <YarTransAvto.79f6c78@radiobanter.com>
Message-ID: <YarTransAvto.79f6c78@radiobanter.com>
Source record: 5740

Занялся
своим
автомобилем,
подремантиро&#1074
;ать,
наладить.
Где можно
найти
качественные
' запчасти
ЯМЗ' (http://www.yartransavto.ru/)
подскажите?

--
YarTransAvto

339. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-14 22:50:26 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4898cc12-d6f7-41d3-97af-9ab3df36a982@l22g2000pre.googlegroups.com>
Source record: 5739

On Feb 14, 10:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:a6aa3153-123f-4839-97dd-11f401376642@f21g2000vbg.googlegroups.com...
> On Feb 13, 10:18 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> In the giant Warsaw dipole was: "In the lower half of the mast, there was
> >> a
> > > vertical steel tube, attached to the mast's outer structure with large
> > > insulators. This tube was grounded at the bottom, and connected
> > > electrically
> > > to the mast structure at half the total height. This technique works by
> > > applying a DC ground at a point of minimum radiofrequency voltage,
> > > conducting static charge to ground without diminishing the radio energy.
> > > Static electrical charge can build up to high values, even at times of no
> > > thunderstorm activity, when such tall structures are insulated from
> > > ground.
>
> >> Guess why the static charge is build up?
>
> > S*
> >if there is any breeze:http://en.wikipedia.org/wiki/Triboelectric_effect
> >or just the clear air electric field: "In fine weather, the potential
>
> increases with altitude at the rate, according to some writers, of
> about 30 volts per foot (100 V/m).[3]"
> fromhttp://en.wikipedia.org/wiki/Atmospheric_electricity
>
> You invented a new power plant. But what voltage will be there in fine
> weather? In conductor must be the same. Will it be like at bottom or as at
> the top or in the middle?
>
> The sentence "when such tall structures are insulated from ground" is wrong.
> Should be: "when such dipole works".
> S*
>
>

try it and see... tie a wire to a kite and fly it up nice and high and
measure the dc voltage to ground. you can also draw current from it.
many years ago i built a motor that was powered by only a wire

sticking up about 20' in the clear air... very interesting free
power! but very dangerous near thunderstorm!

340. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-15 00:41:52 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <esijl61pm8g1dt76utfql41bl3p4popf64@4ax.com>
Source record: 5741

I really do not know how to answer this reply...

On Mon, 14 Feb 2011 17:44:09 +0000, YarTransAvto
<YarTransAvto.79f6c78@radiobanter.com> wrote:

>
>Занялся
>своим
>автомобилем,
>подремантиро&#107
4;ать,
>наладить.
>Где можно
>найти
>качественные
>' запчасти
>ЯМЗ' (http://www.yartransavto.ru/)
>подскажите?
John Ferrell W8CCW

341. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-15 02:29:41 UTC
From: david <none@nospam.com>
Message-ID: <ijcoel$2dj$1@news.eternal-september.org>
Source record: 5742

On Mon, 14 Feb 2011 19:41:52 -0500, John Ferrell rearranged some electrons
to say:

> I really do not know how to answer this reply...
>
> On Mon, 14 Feb 2011 17:44:09 +0000, YarTransAvto
> <YarTransAvto.79f6c78@radiobanter.com> wrote:
<snipped>
> John Ferrell W8CCW

John, I hope you didn't click on the link, it's probably a virus.

de AJ4TF

342. Anybody assemble a HyGain AV-640 recently?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-15 17:48:40 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E8D7827970BAVeebleFetzer@216.250.188.141>
Source record: 5743

I've found either an error in the manual or a defective part.

In the assembly instructions at Task I, step 6, the instructions say

"Insert AV-640 Coil Assembly (LI) 4 inches (10cm) into tubing section
BD."

However, LI can only be inserted 3 inches into BD before butting up
against the smaller diameter tube nested inside of BD.

The overall length of BD is 75" as documented, and the smaller internal
tube sticks out the far end 3".

How did yours go together?

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

343. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-15 18:50:49 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <ajill65te70p3mh3a5dgebtrnpl0reboce@4ax.com>
Source record: 5744

I put a lot of trust in my Norton Internet Security. The link is in
Russian and appears to be about an engine.

On Tue, 15 Feb 2011 02:29:41 +0000 (UTC), david <none@nospam.com>
wrote:

>On Mon, 14 Feb 2011 19:41:52 -0500, John Ferrell rearranged some electrons
>to say:
>
>> I really do not know how to answer this reply...
>>
>> On Mon, 14 Feb 2011 17:44:09 +0000, YarTransAvto
>> <YarTransAvto.79f6c78@radiobanter.com> wrote:
><snipped>
>> John Ferrell W8CCW
>
>John, I hope you didn't click on the link, it's probably a virus.
>
>de AJ4TF
John Ferrell W8CCW

344. Marine vs. telescoping tubing antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-15 22:21:48 UTC
From: Ed_G <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns9E8D9218947B1Huckleberrybigvalley@74.209.136.82>
Source record: 5745

Curious. What are the advantages vs. disavantages of a commercial marine fiberglass antenna such as a Morad vs. using telescoping aluminum tubing sections to accomplish the same?

Of course I realize price is one factor. I'm looking for other factors.

Ed K7AAT

345. Re: Marine vs. telescoping tubing antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-15 23:22:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b9a3d2ec-a313-4c0c-8ba2-e248de5cdf84@o39g2000prb.googlegroups.com>
Source record: 5746

On Feb 15, 10:21 pm, "Ed_G" <Huckleberry_REMO...@bigvalley.net> wrote:
> Curious. What are the advantages vs. disavantages of a commercial
> marine fiberglass antenna such as a Morad vs. using telescoping aluminum
> tubing sections to accomplish the same?
>
> Of course I realize price is one factor. I'm looking for other factors.
>
> Ed K7AAT

corrosion

346. Re: Marine vs. telescoping tubing antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-16 00:06:18 UTC
From: dplatt@radagast.org
Message-ID: <q0hr28-t6u.ln1@radagast.org>
Source record: 5747

> Curious. What are the advantages vs. disavantages of a commercial
>marine fiberglass antenna such as a Morad vs. using telescoping aluminum
>tubing sections to accomplish the same?
>
> Of course I realize price is one factor. I'm looking for other factors.

I imagine that weather resistance is probably the biggest. Marine fiberglass antennas are designed to stand up to long-term exposure to salt spray, and salt air.

Anywhere around the coast, salt in the air will eat aluminum antennas for lunch. Unless you're very careful to have a mechanically-strong junction between sections, with some sort of oxygen-and-moisture-excluding goop or grease, you'll end up with serious deterioration of the metal, and a loss of conductivity between sections.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

347. Re: Marine vs. telescoping tubing antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-16 02:33:57 UTC
From: Ed_G <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns9E8DBCD206DDHuckleberrybigvalley@74.209.136.97>
Source record: 5748

Just for the record, my question is in regards to the use of such antennas
for fixed mobile use on an RV, not for permanent mount.

Ed K7AAT

348. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-16 11:14:04 UTC
From: david <none@nospam.com>
Message-ID: <ijgbhs$t5u$1@news.eternal-september.org>
Source record: 5749

On Tue, 15 Feb 2011 13:50:49 -0500, John Ferrell rearranged some electrons
to say:

> I put a lot of trust in my Norton Internet Security.
> John Ferrell W8CCW

I don't trust anything by Norton.

de AJ4TF

349. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-16 15:46:57 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <p1snl6ldnlhcfl7v4s36p7kvfcuphh97fe@4ax.com>
Source record: 5750

It is all relative!

I have had my problems along the way but it is the best for me that I have found.

If I compile a program without flipping the appropriate switch in Internet Security it promptly deletes the exe because it does not know it!

It was a pain at first, but now I like it. The big problem is the cavelier manner in which Microsoft software is generated.

On Wed, 16 Feb 2011 11:14:04 +0000 (UTC), david <none@nospam.com> wrote:

>On Tue, 15 Feb 2011 13:50:49 -0500, John Ferrell rearranged some electrons
>to say:
>
>> I put a lot of trust in my Norton Internet Security.
>> John Ferrell W8CCW
>
>I don't trust anything by Norton.
>
>de AJ4TF
>

350. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-16 16:21:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rntnl6p2vrmafhbir01cpnhk35bdjdrunl@4ax.com>
Source record: 5651

On Wed, 16 Feb 2011 11:14:04 +0000 (UTC), david <none@nospam.com>
wrote:

>I don't trust anything by Norton.

Norton may be trustworthy. I say that in spite of your feelings
because for my friends who use it, they do not suffer any attacks.
However, they do suffer from its huge resource drain and my friends'
most consistent complaint is how SLOW their system is.

Norton sucks the air out of performance.

Myself, I use Comodo for its firewall (and turn off its virus
detection); and I use AVG (free) for virus detection. I also use
Process Explorer (a very elaborate Task Manager) to look at the system
usage. Even as I write this, my system has 96-98% CPU capacity left
as it should. Any AVG process barely demands more than a quarter
percent CPU cycles.

73's
Richard Clark, KB7QHC

351. Re: Marine vs. telescoping tubing antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-17 00:22:37 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <93a2b03d-1984-46f3-ad90-2e1982e92086@m7g2000vbq.googlegroups.com>
Source record: 5652

On Feb 15, 10:33 pm, "Ed_G" <Huckleberry_REMO...@bigvalley.net> wrote:
> Just for the record, my question is in regards to the use of such antennas
> for fixed mobile use on an RV, not for permanent mount.
>
> Ed   K7AAT

Shouldnt be a problem, You may want to search for NVIS antennas. I do
a fair amount of camping mostly in the mountins of NC, Ga, TN, VA and
WV. This means camping in the valleys. Seems the NVIS antennas work
better from these locations. Many can also be improvised from local
materials.

Jimmie

352. No comment

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-17 04:26:40 UTC
From: tom <news4792@taring.org>
Message-ID: <4d5ca37c$0$87585$8046368a@newsreader.iphouse.net>
Source record: 5653

http://www.theregister.co.uk/2011/02/17/full_duplex_radio_signals/

tom
K0TAR

353. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-17 18:01:27 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <nboql6dmito98d045aehff4rh3dkd1ftlf@4ax.com>
Source record: 5654

"Norton sucks the air out of performance"
I agree!

I had a family client that I set up with AVG Free. It failed,
situation beyond my skills, reload XP Home required...
Maybe it would have done the job if I had opted for the pay version.

On Wed, 16 Feb 2011 08:21:03 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Wed, 16 Feb 2011 11:14:04 +0000 (UTC), david <none@nospam.com>
>wrote:
>
>>I don't trust anything by Norton.
>
>Norton may be trustworthy. I say that in spite of your feelings
>because for my friends who use it, they do not suffer any attacks.
>However, they do suffer from its huge resource drain and my friends'
>most consistent complaint is how SLOW their system is.
>
>Norton sucks the air out of performance.
>
>Myself, I use Comodo for its firewall (and turn off its virus
>detection); and I use AVG (free) for virus detection. I also use
>Process Explorer (a very elaborate Task Manager) to look at the system
>usage. Even as I write this, my system has 96-98% CPU capacity left
>as it should. Any AVG process barely demands more than a quarter
>percent CPU cycles.
>
>73's
>Richard Clark, KB7QHC
John Ferrell W8CCW

354. Re: No comment

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-17 23:21:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2262a0ed-cd2d-4ebf-98b3-2ebf0668c6ae@a5g2000vbs.googlegroups.com>
Source record: 5655

On Feb 17, 4:26 am, tom <news4...@taring.org> wrote:
> http://www.theregister.co.uk/2011/02/17/full_duplex_radio_signals/
>
> tom
> K0TAR

perfectly logical and will probably result in a great patent... the
success in implementing it outside a well controlled lab environment
may be a problem though.

355. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 00:22:44 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <B7-dnR6gbeR_JsDQnZ2dnUVZ_u6dnZ2d@bright.net>
Source record: 5656

K1TTT has nailed it! Effecting a null that is deep enough to produce
something useful is difficult. In any case, the patent examiners will find
that the telephone people did something like this a long time ago. 73, Mac
N8TT

"K1TTT" wrote in message
news:2262a0ed-cd2d-4ebf-98b3-2ebf0668c6ae@a5g2000vbs.googlegroups.com...

On Feb 17, 4:26 am, tom <news4...@taring.org> wrote:
> http://www.theregister.co.uk/2011/02/17/full_duplex_radio_signals/
>
> tom
> K0TAR

perfectly logical and will probably result in a great patent... the
success in implementing it outside a well controlled lab environment
may be a problem though.

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

356. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 01:39:19 UTC
From: tom <news4792@taring.org>
Message-ID: <4d5dcdc3$0$87582$8046368a@newsreader.iphouse.net>
Source record: 5657

On 2/17/2011 6:22 PM, J. C. Mc Laughlin wrote:
> K1TTT has nailed it! Effecting a null that is deep enough to produce
> something useful is difficult. In any case, the patent examiners will
> find that the telephone people did something like this a long time ago.
> 73, Mac N8TT
>
> J. C. Mc Laughlin
> Michigan U.S.A.
> Home: JCM@Power-Net.Net

One big difference is that the hybrid in a POTS phone doesn't want a deep null. They want enough left of what is called "side tone" to give feedback to the ear with receiver on it. If you don't they are uncomfortable and also think the call has been dropped. It would be in the -10 to -30dB range I'd guess.

On the other hand the null for this antenna array would need to be maybe 90dB or better to be really useful. Maybe with processing it could be done with less, but I'd have to say, I don't know.

tom
K0TAR

357. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 02:05:41 UTC
From: K <K@spam.net>
Message-ID: <ijkkrn$a93$1@speranza.aioe.org>
Source record: 5658

Bullshit. I've seen Norton totally fail. I'm an IT guy that repairs this stuff, and IMHO Norton itself is the same as a virus in many respects.

Its not true that 'everyones' suite sucks out performance, but as you say, Norton sure does.

All most SUITE software is nothing more than an in-house firewall that is substituted for the stock MS firewall.

K

> On Wed, 16 Feb 2011 08:21:03 -0800, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>>On Wed, 16 Feb 2011 11:14:04 +0000 (UTC), david <none@nospam.com>
>>wrote:
>>
>>>I don't trust anything by Norton.
>>
>>Norton may be trustworthy. I say that in spite of your feelings
>>because for my friends who use it, they do not suffer any attacks.
>>However, they do suffer from its huge resource drain and my friends'
>>most consistent complaint is how SLOW their system is.
>>
>>Norton sucks the air out of performance.
>
>
> Norton Security *SUITE* does this. So does everyone else's *SUITE*.
>
> Just plain Norton antivirus or whoever's antivirus isn't a significant
> resource hog.
>

358. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 03:01:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <61orl6drmkc47i3bmd5lv19f82jh4b9hue@4ax.com>
Source record: 5659

On Thu, 17 Feb 2011 19:39:19 -0600, tom <news4792@taring.org> wrote:

>On the other hand the null for this antenna array would need to be maybe
>90dB or better to be really useful.

Here we have three (3) antennas, and as we all know they are not in
isolation.

Somewhere, there's a nearby (or near enough) overlooked reflective
surface that disrupts that oh-so-absolutely-necessary symmetry.

73's
Richard Clark, KB7QHC

359. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 03:10:38 UTC
From: nm5k@wt.net
Message-ID: <d2441bad-2a2b-4b02-8a77-57c2fa470fb3@glegroupsg2000goo.googlegroups.com>
Source record: 5660

On Thursday, February 17, 2011 8:05:41 PM UTC-6, K wrote:

>
> All most SUITE software is nothing more than an in-house firewall that is
> substituted for the stock MS firewall.

That's a fairly close assessment. :/ I'm running Norton Suite here,
mainly because I get it from Comcast. So far, I think it is
doing a better job at blocking terrorists than the McAfee suite
that Comcast used to use. I got whacked pretty bad once when running
McAfee suite, and the byte terrorists bug actually turned off and
disabled the McAfee suite. I finally got that cleared up, but it was
one of the hardest infections to totally clean up I had run across
so far. So far, bang on wood, Norton suite has not let anything through,
and in fact has caught a couple of bugs since I started using it.
I don't find the Norton Suite a constant resource hog, actually very
low most of the time. But.. I sometimes notice short term slowdowns
when it's doing one of it's processes. IE: new sig downloads, scans, etc..
Sometimes I'll see it when watching a movie. It will freeze or jitter
my video for a second, then the load idles back down. It never lasts
longer than a second or two. I've always assumed Norton was causing that,
being as there is no other real reason for it. And I'm running a quad core,
so no real lack of horsepower to keep up with the video.

So I can tell something pulls a momentary hard load every once in a while.
I used to use AVG, but quit for some reason I can't even remember..
Seems they went to a new version or something and I decided to switch to
the suites being as I get them pseudo free from Comcast.
But in the overall scheme of things, the puter runs the same as it
ever did.. No constant slowdown at all.
Right now I've got 9 browser windows open, mail, Windows Explorer file
manager, and still idling along at an average 1-2 % CPU use.
You can see some spikes, but a lot of that is moving the mouse, etc..
So far, bang on wood, nothing has been able to whack me since I have
been using the Norton Suite. I'm sure there is always a first time though. :(
I never feel totally invincible no matter what I'm running.
http://home.comcast.net/~nm5k/cpu.jpg

360. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 08:42:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d5e30fe$0$2461$65785112@news.neostrada.pl>
Source record: 5661

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:4898cc12-d6f7-41d3-97af-9ab3df36a982@l22g2000pre.googlegroups.com...
On Feb 14, 10:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> > >> In the giant Warsaw dipole was: "In the lower half of the mast, there
> > >> was
> >> a
> > vertical steel tube, attached to the mast's outer structure with large
> > insulators. This tube was grounded at the bottom, and connected
> > electrically
> > to the mast structure at half the total height. This technique works by
> > applying a DC ground at a point of minimum radiofrequency voltage,
> > conducting static charge to ground without diminishing the radio energy.
> > Static electrical charge can build up to high values, even at times of
> > no
> > thunderstorm activity, when such tall structures are insulated from
> > ground.
>
>
>> The sentence "when such tall structures are insulated from ground" is
>> wrong.
> Should be: "when such dipole works".
> S*
>
>

>try it and see... tie a wire to a kite and fly it up nice and high and
measure the dc voltage to ground. you can also draw current from it.
many years ago i built a motor that was powered by only a wire
sticking up about 20' in the clear air... very interesting free
power! but very dangerous near thunderstorm!

In clear air the electrons migrate up. Under a cloud down.
The direction of DC is weather dependent.

Of course sometimes no DC at all.

It is interesting that a wire sticking up about 20' produces DC but your
antennas no.

Transmitting antenna is like electron gun.
S*

361. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 13:38:45 UTC
From: joe <none@domain.invalid>
Message-ID: <ijlsclbrp1@speranza.aioe.org>
Source record: 5662

Szczepan Bialek wrote:

> Transmitting antenna is like electron gun.
> S*
>
>

SB,

If electrons leaving the antenna are what makes it work, then please explain how an antenna coated by an insulator like plastic or fiberglass works.

Thanks,

362. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 17:49:34 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <4satl6hvp2kcfp6c9448b2l4ruvk2f8pnv@4ax.com>
Source record: 5663

Yes, everything can fail. I cannot forget the time when a Norton update shut me down. It was a long ways back and I don't remember the details, but it was not pretty.

I am an old retired guy who has fallen into the trap of maintaining a few family and church machines. Usually on my funds and always on my time. Since I have a lot of more interesting stuff to do I like to keep things simple as possible for me. Norton has 3-user packages that are available on sale from time to time and I am the only one that notices the performance hit. The background scans seem to be the worst offender for me. I tend to run too many browser windows open at any give time. Saving & restoring Tab groups has helped a lot there.

It is a good time for an old geek to be retired. Information is widely available and lots of good guys to communicate with!

BTW and even further off topic, my clothes washing machine failed early this week. I found a wealth of service info on YouTube which saved me about $500! I will take me a few days to recover from the physical efforts but it has been a very satisfying week!

Hopefully I will get some maintenance done on the tower this coming week and get back to antennas...

On Thu, 17 Feb 2011 18:05:41 -0800, "K" <K@spam.net> wrote:

>Bullshit. I've seen Norton totally fail. I'm an IT guy that repairs this
>stuff, and IMHO Norton itself is the same as a virus in many respects.
>
>Its not true that 'everyones' suite sucks out performance, but as you say,
>Norton sure does.
>
>All most SUITE software is nothing more than an in-house firewall that is
>substituted for the stock MS firewall.
>
>K

John Ferrell W8CCW

363. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 18:20:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d5eb857$0$2445$65785112@news.neostrada.pl>
Source record: 5664

"joe" <none@domain.invalid> napisal w wiadomosci
news:ijlsclbrp1@speranza.aioe.org...
> Szczepan Bialek wrote:
>
>> Transmitting antenna is like electron gun.
>
> If electrons leaving the antenna are what makes it work, then please
> explain how an antenna coated by an insulator like plastic or fiberglass
> works.

Permittivity is material and frequency dependent. The space and an insulator
like ice and plastic or fiberglass have small value.
Water has 81.

An antenna covered with ice works. But if the ice is melting and the all
pores are filled with water the antenna do not work.

The key issue is the net DC current. Of course as a result of ansymmetry.
More electrons flow up then come back.

This net result is easy to measure.
S*
,

364. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-18 18:55:16 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3fc54225-0701-4210-a159-eb4f2ade139c@j9g2000prj.googlegroups.com>
Source record: 5665

On Feb 18, 6:20 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "joe" <n...@domain.invalid> napisal w wiadomoscinews:ijlsclbrp1@speranza.aioe.org...
>
> > Szczepan Bialek wrote:
>
> >> Transmitting antenna is like electron gun.
>
> > If electrons leaving the antenna are what makes it work, then please
> > explain how an antenna coated by an insulator like plastic or fiberglass
> > works.
>
> Permittivity is material and frequency dependent. The space and an insulator
> like ice and plastic or fiberglass have small value.
> Water has 81.
>
> An antenna covered with ice works. But if the ice is melting and the all
> pores are filled with water the antenna do not work.
>
> The key issue is the net DC current. Of course as a result of ansymmetry.
> More electrons flow up then come back.
>
> This net result is easy to measure.
> S*
> ,

antennas submerged in salt water work, how does that happen??

365. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-19 09:33:28 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d5f8e6e$0$2486$65785112@news.neostrada.pl>
Source record: 5666

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:3fc54225-0701-4210-a159-eb4f2ade139c@j9g2000prj.googlegroups.com...
On Feb 18, 6:20 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> ">
>> An antenna covered with ice works. But if the ice is melting and the all
> pores are filled with water the antenna do not work.

>antennas submerged in salt water work, how does that happen??

It was here about antennas made of salt water.
Is it a normal practice to make an underwater antennas?
S*

366. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-19 16:49:18 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e4d355bd-cdfa-44e4-b4a7-7a26afd628fb@q2g2000pre.googlegroups.com>
Source record: 5667

On Feb 19, 9:33 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:3fc54225-0701-4210-a159-eb4f2ade139c@j9g2000prj.googlegroups.com...
> On Feb 18, 6:20 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > ">
> >> An antenna covered with ice works. But if the ice is melting and the all
> > > pores are filled with water the antenna do not work.
> > >antennas submerged in salt water work, how does that happen??
>
> It was here about antennas made of salt water.
> Is it a normal practice to make an underwater antennas?
> S*

yes, there are underwater antennas in use 24/7 by military
submarines... so how do the electrons get through the salt water?

367. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-19 17:41:50 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d6000e4$0$2503$65785112@news.neostrada.pl>
Source record: 5668

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:e4d355bd-cdfa-44e4-b4a7-7a26afd628fb@q2g2000pre.googlegroups.com...
On Feb 19, 9:33 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
> wiadomoscinews:3fc54225-0701-4210-a159-eb4f2ade139c@j9g2000prj.googlegroups.com...
> On Feb 18, 6:20 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > ">
> > >> An antenna covered with ice works. But if the ice is melting and the
> > >> all
> > > pores are filled with water the antenna do not work.
> > >antennas submerged in salt water work, how does that happen??
>
>> It was here about antennas made of salt water.
>> Is it a normal practice to make an underwater antennas?

>yes, there are underwater antennas in use 24/7 by military
submarines... so how do the electrons get through the salt water?

http://www.qsl.net/vk5br/UwaterComms.htm
S*

368. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-19 19:15:46 UTC
From: joe <none@domain.invalid>
Message-ID: <ijp4gfevs1@speranza.aioe.org>
Source record: 5669

Szczepan Bialek wrote:
> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci

>
>> yes, there are underwater antennas in use 24/7 by military
> submarines... so how do the electrons get through the salt water?
>
> http://www.qsl.net/vk5br/UwaterComms.htm
> S*
>
>

The word electron does not appear on that page.

369. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-19 22:18:36 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <6lX7p.689040$pX3.168685@en-nntp-11.dc1.easynews.com>
Source record: 5670

On 2/19/2011 1:15 PM, joe wrote:
> Szczepan Bialek wrote:
>> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
>
>>
>>> yes, there are underwater antennas in use 24/7 by military
>> submarines... so how do the electrons get through the salt water?
>>

They don't. Radio waves travel through water the same way they travel
through outer space. Albeit better through water at ultra-low frequencies.

>> http://www.qsl.net/vk5br/UwaterComms.htm
>> S*
>>
>
> The word electron does not appear on that page.

370. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 00:36:25 UTC
From: tom <news4792@taring.org>
Message-ID: <4d606204$0$87583$8046368a@newsreader.iphouse.net>
Source record: 5671

On 2/19/2011 11:41 AM, Szczepan Bialek wrote:
> Uzytkownik "K1TTT"<k1ttt@arrl.net> napisal w wiadomosci
> news:e4d355bd-cdfa-44e4-b4a7-7a26afd628fb@q2g2000pre.googlegroups.com...
> On Feb 19, 9:33 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
<snip excess>
>
>> yes, there are underwater antennas in use 24/7 by military
> submarines... so how do the electrons get through the salt water?
>
> http://www.qsl.net/vk5br/UwaterComms.htm
> S*

I don't see where you explained anything about the electrons. The
article doesn't, either.

I'll repeat the question in case you forgot it again.

"so how do the electrons get through the salt water?"

And of course then we have the problem of RF communications with people
who are in caves.

How do the electrons get through the dirt? Which seems to be even less
likely than salt water.

tom
K0TAR

371. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 06:41:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <end1m6pp7c3kv1b52736r2bg7g9sr84mtl@4ax.com>
Source record: 5672

On Sat, 19 Feb 2011 18:36:25 -0600, tom <news4792@taring.org> wrote:

>How do the electrons get through the dirt?

Having not read most of the nonsense that attends this kind of side thread, I will dip my oar into this anyway and ask:

How do the electrons get through the air? (especially when, in their ferocious struggle, they usually light up the night with corona in the best of worst performance that rarely achieves propagation beyond an inch).

73's
Richard Clark, KB7QHC

372. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 07:33:03 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <3ef95fdb-00e7-49f4-a290-b934e2a8d37b@y36g2000pra.googlegroups.com>
Source record: 5673

On Feb 17, 7:01 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 17 Feb 2011 19:39:19 -0600, tom <news4...@taring.org> wrote:
> >On the other hand the null for this antenna array would need to be maybe
> >90dB or better to be really useful.
>
> Here we have three (3) antennas, and as we all know they are not in
> isolation.
>
> Somewhere, there's a nearby (or near enough) overlooked reflective
> surface that disrupts that oh-so-absolutely-necessary symmetry.
>
> 73's
> Richard Clark, KB7QHC

About 25 years ago, I attended a conference on design methodologies for blanking continuous (or high duty factor) signals in a military environment. The benefit is to eliminate interference by your own transmit signals to receivers, especially wideband EW/ECM receivers. No discussion of twinned transmit antennas, though, but sample-and-cancel techniques were prominent. Big problem: maintaining phase linearity.

373. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 08:44:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d60d494$0$2437$65785112@news.neostrada.pl>
Source record: 5674

Uzytkownik "joe" <none@domain.invalid> napisal w wiadomosci
news:ijp4gfevs1@speranza.aioe.org...
> Szczepan Bialek wrote:
>> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
>
>>
>>> yes, there are underwater antennas in use 24/7 by military
>> submarines... so how do the electrons get through the salt water?

>> http://www.qsl.net/vk5br/UwaterComms.htm
>
> The word electron does not appear on that page.

Asymmetric molecule oscillations = sound waves.
Asymmetric electron oscillations = electric waves.

On that page are radio waves in air and water. Free electrons are
everywhere. But the freedom is material dependent.
S*

374. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 08:59:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d60d7f1$0$2490$65785112@news.neostrada.pl>
Source record: 5675

"tom" <news4792@taring.org> napisal w wiadomosci
news:4d606204$0$87583$8046368a@newsreader.iphouse.net...
> On 2/19/2011 11:41 AM, Szczepan Bialek wrote:
>>>>
>> http://www.qsl.net/vk5br/UwaterComms.htm
>
> I don't see where you explained anything about the electrons. The article
> doesn't, either.
>
> I'll repeat the question in case you forgot it again.
>
> "so how do the electrons get through the salt water?"
>
> And of course then we have the problem of RF communications with people
> who are in caves.
>
> How do the electrons get through the dirt? Which seems to be even less
> likely than salt water.

In Nature are the continuous flows and the oscillatory flows.
The oscillatory flow is a second name of waves. If oscillations are
asymetric than net flow take place.

Electrons are everywhere. Their freedom is material dependent.
S*

375. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 13:41:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <dc99678f-db43-48f8-8ef1-7f0c018cc0c1@y35g2000prc.googlegroups.com>
Source record: 5676

On Feb 20, 8:59 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org> napisal w
wiadomoscinews:4d606204$0$87583$8046368a@newsreader.iphouse.net...
>
>
>
> > On 2/19/2011 11:41 AM, Szczepan Bialek wrote:
>
> >>http://www.qsl.net/vk5br/UwaterComms.htm
>
> > > I don't see where you explained anything about the electrons. The article
> > > doesn't, either.
>
> > > I'll repeat the question in case you forgot it again.
>
> > > "so how do the electrons get through the salt water?"
>
> > > And of course then we have the problem of RF communications with people
> > > who are in caves.
>
> > > How do the electrons get through the dirt? Which seems to be even less
> > > likely than salt water.
>
> In Nature are the continuous flows and the oscillatory flows.
> The oscillatory flow is a second name of waves. If oscillations are
> asymetric than net flow take place.
>
> Electrons are everywhere. Their freedom is material dependent.
> S*

but then why can't i measure dc current from my antenna? and why do
my oscillations look so symmetric?

376. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 15:53:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ebd2m6puj64pklas1jqmrp5dtedchnires@4ax.com>
Source record: 5677

On Sat, 19 Feb 2011 23:33:03 -0800 (PST), "Sal M. Onella"
<sobars@cox.net> wrote:

>Big problem: maintaining phase
>linearity.

I was on duty aboard the USS Holland (my job, heading up the standards lab) when one of the submariners rousted me out of my rack to make a measurement - the last one before the captain could go out to sea.

I tumbled down the ladder (sometime in the early AM) to find a group of techs huddled around a meg-Ohmmeter in the main passageway just aft of Sherwood forest.

Now I add that significant detail because, as you mention about maintaining phase linearity, every time a sailor shimmied past the group to go forward, his movement would peg the meter in one direction or the other. The guys were trying to measure a gigohm load in the nuclear reactor. The disturbance of the local electric field was enough to drive the resistance bridge wild. Any movement in its vicinity was enough to do that. There was barely enough patience among that group to let anything settle.

The sub couldn't move until they got at least 1 Billion Ohms, and when I asked what the problem was (I was the pro from Dover there to rescue their butts or the captain would keelhaul them), they said they were several magnitudes of order off - too little resistance.

I hunkered down over the instrument, waited a couple of minutes before the static fields settled and the instrument calmed, and I measured AT LEAST a gigohm. "So what's the problem?"

"We need a billion ohms before we can certify the reactor is ready to get underway!"

I looked at my measurement - easily a billion ohms, 1 gigohm (I thought there wasn't that much resistance between us and the moon, but I wasn't going to make that observation with the XO hunkered down watching this, and the Old Man staring over his shoulder.).

"No, No! A BILLION OHMS!" came their plea when I pointed out the measurement.

"What do you think a billion is?" I asked.

"We looked it up in the dictionary and its a million million."

I stood up and looked forward to crawling back into my rack. "That is the English definition for billion. What you want is the American definition for a billion which is a thousand million."

73's
Richard Clark, KB7QHC

377. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 20:11:29 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <0eb40d3e-0c49-4146-8ff8-0d2fc82277fc@w7g2000pre.googlegroups.com>
Source record: 5678

On Feb 20, 7:53 am, Richard Clark <kb7...@comcast.net> wrote:

< snip >

 "That is
> the English definition for billion. What you want is the American
> definition for a billion which is a thousand million."
>
> 73's
> Richard Clark, KB7QHC

How did we get wrapped around THAT axel?!? I know there's that
difference and I hate it!!! GRRR!

"Sal"
(KD6VKW)

378. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-20 22:18:03 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <37584c1b-5fee-494f-8b30-517798a05595@b8g2000vbi.googlegroups.com>
Source record: 5679

On Feb 17, 9:39 pm, tom <news4...@taring.org> wrote:
> On 2/17/2011 6:22 PM, J. C. Mc Laughlin wrote:
>
> > K1TTT has nailed it! Effecting a null that is deep enough to produce
> > something useful is difficult. In any case, the patent examiners will
> > find that the telephone people did something like this a long time ago.
> > 73, Mac N8TT
>
> > J. C. Mc Laughlin
> > Michigan U.S.A.
> > Home: J...@Power-Net.Net
>
> One big difference is that the hybrid in a POTS phone doesn't want a
> deep null. They want enough left of what is called "side tone" to give
> feedback to the ear with receiver on it. If you don't they are
> uncomfortable and also think the call has been dropped. It would be in
> the -10 to -30dB range I'd guess.
>
> On the other hand the null for this antenna array would need to be maybe
> 90dB or better to be really useful. Maybe with processing it could be
> done with less, but I'd have to say, I don't know.
>
> tom
> K0TAR

Normal level on a phone is about -25db I think sidetones are about 10
or 12db below that. Take that with a little salt my comm days are long
time past.

Jimmie

379. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-21 09:41:02 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d623334$0$2458$65785112@news.neostrada.pl>
Source record: 5680

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:dc99678f-db43-48f8-8ef1-7f0c018cc0c1@y35g2000prc.googlegroups.com...
On Feb 20, 8:59 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> In Nature are the continuous flows and the oscillatory flows.
>> The oscillatory flow is a second name of waves. If oscillations are
> asymetric than net flow take place.
>
>> Electrons are everywhere. Their freedom is material dependent.
>
>but then why can't i measure dc current from my antenna? and why do
my oscillations look so symmetric?

To measure it you must have an equipment and good will.
The last is more important.

Look at the original Hertz apparatus:
http://people.seas.harvard.edu/~jones/cscie129/nu_lectures/lecture6/hertz/S_p11.gif

To have one portion of radiation it is enough to charge one half of the
dipole. Charging is made with DC.
After some time you can repeat it.

The radiation is in form of the damped wave:
http://en.wikipedia.org/wiki/File:Ondes_amorties.jpg

In damped waves each amplitude is smaller than the previous. So in one cycle
no symmetry.

It is obvious. But you can try to detect it.
S*

380. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-21 11:59:11 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2082b0ac-2d02-4f40-9952-2a9663a1085a@d12g2000prj.googlegroups.com>
Source record: 5681

On Feb 21, 9:41 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:dc99678f-db43-48f8-8ef1-7f0c018cc0c1@y35g2000prc.googlegroups.com...
> On Feb 20, 8:59 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> In Nature are the continuous flows and the oscillatory flows.
> >> The oscillatory flow is a second name of waves. If oscillations are
> > asymetric than net flow take place.
>
> >> Electrons are everywhere. Their freedom is material dependent.
>
> >but then why can't i measure dc current from my antenna? and why do
>
> my oscillations look so symmetric?
>
> To measure it you must have an equipment and good will.
> The last is more important.
>
> Look at the original Hertz
apparatus:http://people.seas.harvard.edu/~jones/cscie129/nu_lectures/lecture6/h...
>
> To have one portion of radiation it is enough to charge one half of the
> dipole. Charging is made with DC.
> After some time you can repeat it.
>
> The radiation is in form of the damped
wave:http://en.wikipedia.org/wiki/File:Ondes_amorties.jpg
>
> In damped waves each amplitude is smaller than the previous. So in one cycle
> no symmetry.
>
> It is obvious. But you can try to detect it.
> S*

can't detect it here, my waves look like perfectly symmetric sine
waves and i can not measure dc on antenna. how much dc should i have
with 1000w at 14mhz?

381. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-21 18:07:47 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d62a9f9$0$2505$65785112@news.neostrada.pl>
Source record: 5682

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:2082b0ac-2d02-4f40-9952-2a9663a1085a@d12g2000prj.googlegroups.com...
On Feb 21, 9:41 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> The radiation is in form of the damped wave:
>> http://en.wikipedia.org/wiki/File:Ondes_amorties.jpg
>
?> In damped waves each amplitude is smaller than the previous. So in one
cycle
> no symmetry.
>
>> It is obvious. But you can try to detect it.
> S*

>can't detect it here, my waves look like perfectly symmetric sine
waves and i can not measure dc on antenna. how much dc should i have
with 1000w at 14mhz?

I do not know. It is peak voltage and efficiency dependent.

If electrons jump off from antennas it will be easy to measure in klystron:
http://en.wikipedia.org/wiki/File:Klystron.enp.gif

The electron beam is collected after work. If starting beam is equal to
collected then no jump off.
S*

382. Re: ESD Protection ?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-21 21:38:55 UTC
From: disharp@swbell.net
Message-ID: <9om5m610bu6m5vbdlbab7fo24qgsgkaodf@4ax.com>
Source record: 5683

Hello.
The ICE unit has a toridal coil to ground so in affect the unit is at
direct DC ground. IMHA this is the best ESDI protector around
Dick Sharp
KE5NCR

On Tue, 04 Jan 2011 14:11:45 -0500, Bob <rgsros@notme.invalid> wrote:

>Hello,
>
>Have a new WinRadio receiver, and am a bit concerned about protecting
>it's front end from possible damage due to ESD ElectroStatic Discharge,
>effects, etc.
>
>I do receiving only, and have an end-fed PAR antenna outside, feeding
>the receiver by about a 30 foot run of coax from the antenna.
>At the antenna, I have an ICE lightning protector, and a copper bar as a
>ground point, there.
>
>No idea if the ICE unit has a bleed resistor for dissipating any static
>buildups.
>
>Too advanced in years now to build anything myself incorporating Zeners,
>Varistors, or whatever, so would like to find, if you folks feel it's
>worth doing (?), a small box unit with bnc's on both end, that would
>provide good and safe ESD protection that I would locate indoors right
>next to the radio's input.
>
>Any thoughts or suggestions ?
>Brand, Model Number, or just forget as probably not needed ?
>
>BTW: Nice article on ESD at:
> http://www.ce-mag.com/archive/01/Spring/Lee.html
>
>Thanks,
>Bob

383. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-21 21:47:11 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9f010b60-5e58-4e64-8d05-5e89a01aecfa@o7g2000prn.googlegroups.com>
Source record: 5684

On Feb 21, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:2082b0ac-2d02-4f40-9952-2a9663a1085a@d12g2000prj.googlegroups.com...
> On Feb 21, 9:41 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> The radiation is in form of the damped wave:
> >>http://en.wikipedia.org/wiki/File:Ondes_amorties.jpg
>
> ?> In damped waves each amplitude is smaller than the previous. So in one
> cycle
>
> > no symmetry.
>
> >> It is obvious. But you can try to detect it.
> > S*
> >can't detect it here, my waves look like perfectly symmetric sine
>
> waves and i can not measure dc on antenna. how much dc should i have
> with 1000w at 14mhz?
>
> I do not know. It is peak voltage and efficiency dependent.

feedpoint is 50 ohms, and 99% efficient... how much now?

>
> If electrons jump off from antennas it will be easy to measure in
klystron:http://en.wikipedia.org/wiki/File:Klystron.enp.gif
>
> The electron beam is collected after work. If starting beam is equal to
> collected then no jump off.
> S*

i have worked with klystrons... the current in equals the current out,
all electrons are accounted for.

384. SILENT KEY: An Dx'ers Eulogy for Tom C Gleeman (KE6YNH)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 03:36:51 UTC
From: "Dave U. Random" <anonymous@anonymitaet-im-inter.net>
Message-ID: <9108bd6e442463c194fe929ce822e9ce@anonymitaet-im-inter.net>
Source record: 5685
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

"...most people that are creative people...are pretty much different from the average person, they don't think the same way, they're not motivated by the same things and...they're usually very very difficult people to get along with. ...they're not like you or well most of us." [The Summer of 2010, 3840khz (2:30 in the morning), Comment from Jim (KI6GU) A rare qso on worldviews].

"Just relax a little bit...c'mon Kevin. Ya know laid there four days on the floor, ya know and you're alive. Ya gotta be thankful for that. C'mon man, if somebody at your work didn't have a reason to care about you a little bit. You wouldn't be here with the rest of us. Now you gotta be thankful for that c'mon. Lotta people have their problems and have their issues in life. Everybody's not the same mold, everybody's different, everybody's built different, everybody has different wants and needs. Some people need somethin' to hang on to too make 'em feel better. Or people...ridicule other people because they don't feel good of themselves unless they do ridicule someone. Just c'mon...man. Just relax." [The Summer of 2010, 3840khz (2:40 in the morning), Comment from John "Cosmo" (KI6VPR) to AD8Q on cooling Kevs nerve because somebody did not identify].

Jim's comment from the summer of 2010 (Tom sat back on this qso) alludes to the youthful mindset of, shortwave maven, Tom Gleeman's (KE6YNH), friendly personality gift. One of the nicest ham operators to operate from the Pacific shores. Tom has passed on from a massive stroke at the age of sixty Feb. 12 2011. (see source)

Tom Gleeman was one of the original founders of the late morning frequency rag chew - on 3840KHz, one created by the semi-retired broadcaster Art Bell. I will never the first time I tuned in and found Tom and Kenny (fondly known as the Llama Man (KG6HKM) in a 2AM qso, anybody's who was fortunate to hear Tom and Kenny in a solitary qso, were reminded of the characters from Cervantes novel "Don Quixote". Odd confessions like Tom admitting that in all the years living in San Diego "he never surfed but only boogie boarded [with his spontaneous chuckle]", exemplified his earthiness. Both Kenny and Tom in qso were classic examples of rag chewers. I will never forget Tom's "Annnnnnyway" punctuation and his distinctive youthful sign "This is Tom innnnnn Sannnnn Diiiiiiiiiego" .

Tom was proud of his Chinese pen pal girlfriend, a knowledgeable Trekkie, loved his dog (who got stuck in the dog door), his cat, hated the 500 pound concrete table that rusted in his back yard, and was very grateful to the American Radio Relay League (ARRL) in

addition to respecting the old dogma of shortwave communications,
he lived life to the fullest.

In the last seven months his probing conversations that at times were
taken out of context. In all sincerity, and from I what I've heard from
his qsos, his so called, contorting statements occurred when he started
taking pain killers. Somebody on qrz.com noticed the subtle change too.
Tom was more like a moderator, keeping other hams at bay from killing
each other, but at times he would rather lay low through the occasional
war zone that would erupt on 3840kHz.

Somebody at the qrz.com obituary commented Toms fondness for calling
cq. "This is Tom calling cq, calling cq, this is KE6YNH calling cq"
sometimes I heard him do that for 10 minutes and usually he'd get a
response. Right around Christmas of last year Tom commented that his
earliest memory when learning about ham radio was "he always wanted to
call cq" and was amused when he roused a senior ham from his sleep who
chastised him "Don't ever call CQ. It is a thing of the past." Always
grateful to make making a contact he acknowledged ham operators from
the East Coast of the United States, the Midwest, Alaska, Canada, South
Africa, Hawaii, Australia, New Zealand, Mexico, Central America, Japan
and Costa Rica. What was interesting about Tom's personality, he
admitted that he would sometimes talk with non licensed operators who
were respectful and had something to say. That was so cool and
represents the young'un hams who did eventually get their tickets
because of Toms encouragement.

Let us now celebrate Tom with two nice musical selections.

Shelly Y Nueva Generacion - Vestido Azul [1966]
(http://www.youtube.com/watch?v=9bRTq3t7q0U)

The Staple Singers - Be Careful of the Stones You Throw [1964]
(http://www.youtube.com/watch?v=vBthgVHdy0g)

A moment of silence was called at Feb 18, 2010 2:29 A.M. (PST) on
3840Khz by a stellar group of fellow hams.
My condolences to Toms survivors.

sources used: http://forums.qrz.com/showthread.php?285447-KE6YNH-Silent-key

385. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 08:44:48 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d63778b$0$2495$65785112@news.neostrada.pl>
Source record: 5686

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:9f010b60-5e58-4e64-8d05-5e89a01aecfa@o7g2000prn.googlegroups.com...
On Feb 21, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >can't detect it here, my waves look like perfectly symmetric sine
>> waves and i can not measure dc on antenna. how much dc should i have
> with 1000w at 14mhz?
>
>> I do not know. It is peak voltage and efficiency dependent.

>feedpoint is 50 ohms, and 99% efficient... how much now?

And peak voltage at the end?

>
>> If electrons jump off from antennas it will be easy to measure in
>> klystron:http://en.wikipedia.org/wiki/File:Klystron.enp.gif
>
>> The electron beam is collected after work. If starting beam is equal to
> collected then no jump off.
> S*

>i have worked with klystrons... the current in equals the current out,
all electrons are accounted for.

So in your area the field emission do not work.
S*

386. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 12:49:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <61d090e8-0ae3-474e-826a-d6f16bed66ed@q2g2000pre.googlegroups.com>
Source record: 5687

On Feb 22, 8:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:9f010b60-5e58-4e64-8d05-5e89a01aecfa@o7g2000prn.googlegroups.com...
> On Feb 21, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > >can't detect it here, my waves look like perfectly symmetric sine
> >> waves and i can not measure dc on antenna. how much dc should i have
> > > with 1000w at 14mhz?
>
> >> I do not know. It is peak voltage and efficiency dependent.
> >feedpoint is 50 ohms, and 99% efficient... how much now?
>
> And peak voltage at the end?
>
>
>
> >> If electrons jump off from antennas it will be easy to measure in
> >> klystron:http://en.wikipedia.org/wiki/File:Klystron.enp.gif
>
> >> The electron beam is collected after work. If starting beam is equal to
> > > collected then no jump off.
> > > S*
> >i have worked with klystrons... the current in equals the current out,
>
> all electrons are accounted for.
>
> So in your area the field emission do not work.
> S*

i don't have any electrons jumping off my antennas... but i still talk
around the world. your theory must be wrong.

387. rec.radio.amateur

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 13:52:26 UTC
From: prakashkumar k <sathyaprakashcbe@gmail.com>
Message-ID: <7049b1d2-6628-4630-82cc-ca34dba75219@a11g2000pro.googlegroups.com>
Source record: 5688

http://123maza.com/75/fruit258/

388. Re: No comment

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 17:52:50 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ik0t5j$v01$1@news.jpl.nasa.gov>
Source record: 5690

tom wrote:
>
> http://www.theregister.co.uk/2011/02/17/full_duplex_radio_signals/
>
> tom
> K0TAR

Been done.
Adaptive cancelers for co-site interference have been around for
decades. A friend of mine used to work for American Nucleonics Corp
(there's a company name from the 50s, eh) in the 80s, when they were
transitioning from totally analog cancelers to digitally controlled
cancelers (with the canceling still done in analog, with a second antenna)
The idea of two transmitting antennas forming an adaptively canceled
null at the receiver has certainly been mentioned in the literature.

389. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 17:53:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d63f83c$0$2437$65785112@news.neostrada.pl>
Source record: 5689

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:61d090e8-0ae3-474e-826a-d6f16bed66ed@q2g2000pre.googlegroups.com...
On Feb 22, 8:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> And peak voltage at the end?
>
>> So in your area the field emission do not work.

>i don't have any electrons jumping off my antennas... but i still talk
around the world. your theory must be wrong.

Field emission is voltage dependent. What is the voltage peaks on the end of
your antennas.
Even if they are symmetric the emission is different for negative/positive
voltage. The negative emission is stronger.

Put on CB antenna the cathode ray trap (vacuum tube) and measure the
anticathode to ground current.
S*

390. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 17:54:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ik0t9e$v01$2@news.jpl.nasa.gov>
Source record: 5691

Richard Clark wrote:
> On Thu, 17 Feb 2011 19:39:19 -0600, tom <news4792@taring.org> wrote:
>
>> On the other hand the null for this antenna array would need to be maybe
>> 90dB or better to be really useful.
>
> Here we have three (3) antennas, and as we all know they are not in
> isolation.
>
> Somewhere, there's a nearby (or near enough) overlooked reflective
> surface that disrupts that oh-so-absolutely-necessary symmetry.
>

All practical systems like this use some form of adaptive logic to fix
that. Usually, adaptive canceling is done in the receiver, because the
signal levels are lower, but in the 802.11 kind of world, with 100mW
linear transmitters, there's probably not much cost difference.

A different matter if you're running a kilowatt.

391. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 18:56:24 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5ea3d329-6bc8-441e-933b-697280e4410d@a11g2000pro.googlegroups.com>
Source record: 5692

On Feb 22, 5:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:61d090e8-0ae3-474e-826a-d6f16bed66ed@q2g2000pre.googlegroups.com...
> On Feb 22, 8:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> And peak voltage at the end?
>
> >> So in your area the field emission do not work.
> >i don't have any electrons jumping off my antennas... but i still talk
>
> around the world. your theory must be wrong.
>
> Field emission is voltage dependent. What is the voltage peaks on the end of
> your antennas.
> Even if they are symmetric the emission is different for negative/positive
> voltage. The negative emission is stronger.
>
> Put on CB antenna the cathode ray trap (vacuum tube) and measure the
> anticathode to ground current.
> S*

how can it be voltage dependent if it is necessary for the rf signal?
do qrp signals that only generate 1v on the tip of the antenna not
generate rf waves and propagate??

392. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 21:34:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b5d204be-2da4-40e5-a779-631a197fa1f0@o30g2000pra.googlegroups.com>
Source record: 5693

On Feb 22, 5:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:61d090e8-0ae3-474e-826a-d6f16bed66ed@q2g2000pre.googlegroups.com...
> On Feb 22, 8:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> And peak voltage at the end?
>
> >> So in your area the field emission do not work.
> >i don't have any electrons jumping off my antennas... but i still talk
>
> around the world. your theory must be wrong.
>
> Field emission is voltage dependent. What is the voltage peaks on the end of
> your antennas.
> Even if they are symmetric the emission is different for negative/positive
> voltage. The negative emission is stronger.
>
> Put on CB antenna the cathode ray trap (vacuum tube) and measure the
> anticathode to ground current.
> S*

oh yeah, riddle me this... infra-red light is another form of
electromagnetic energy which can be picked up from the heat of your
body by an IR camera... since your body is radiating em waves
continuously why aren't you always charged??

393. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-22 23:22:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5sf8m69jeih1dnhl2h50u9j2l34g4jtvug@4ax.com>
Source record: 5694

On Tue, 22 Feb 2011 09:54:53 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>> Here we have three (3) antennas, and as we all know they are not in
>> isolation.
>>
>> Somewhere, there's a nearby (or near enough) overlooked reflective
>> surface that disrupts that oh-so-absolutely-necessary symmetry.
>>
>
>All practical systems like this use some form of adaptive logic to fix
>that. Usually, adaptive canceling is done in the receiver, because the
>signal levels are lower, but in the 802.11 kind of world, with 100mW
>linear transmitters, there's probably not much cost difference.
>
>A different matter if you're running a kilowatt.

It only takes a couple of milliWatts (kiloWatts aside) to ruin your
day in competition for listening to microWatt signals. The desired
signal's transmitter antenna would have to be literally within the
near field of the active transmitter (and receiver's) antenna system.
At that point, we may as well use a land-line with hybrid bridges.

Software coming to the rescue for a hardware problem works only in
multi-million dollar projects (fly-by-wire avionics comes to mind).

73's
Richard Clark, KB7QHC

394. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-23 08:39:50 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d64c7dc$0$2445$65785112@news.neostrada.pl>
Source record: 5695

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:b5d204be-2da4-40e5-a779-631a197fa1f0@o30g2000pra.googlegroups.com...
On Feb 22, 5:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Put on CB antenna the cathode ray trap (vacuum tube) and measure the
> anticathode to ground current.
> S*

>oh yeah, riddle me this... infra-red light is another form of
electromagnetic energy which can be picked up from the heat of your
body by an IR camera... since your body is radiating em waves
continuously why aren't you always charged??

I am emitting (loss) electrons and I am always positively charged. See:
http://www.siliconfareast.com/tribo_series.htm
It seams that in your area the physics laws do not work.
S*

395. Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-23 15:00:57 UTC
From: RadioWaves <radio@oidar>
Message-ID: <4d652125$0$30404$bf4948fe@news.tele2.nl>
Source record: 5696

Today I have put my homepage online with information about the Magnetic Loop Antenna.

http://www.qsl.net/pa7nr/

PA7NR

396. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-23 17:29:56 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ik3g6l$q19$1@news.jpl.nasa.gov>
Source record: 5697

Richard Clark wrote:
> On Tue, 22 Feb 2011 09:54:53 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>>> Here we have three (3) antennas, and as we all know they are not in
>>> isolation.
>>>
>>> Somewhere, there's a nearby (or near enough) overlooked reflective
>>> surface that disrupts that oh-so-absolutely-necessary symmetry.
>>>
>> All practical systems like this use some form of adaptive logic to fix
>> that. Usually, adaptive canceling is done in the receiver, because the
>> signal levels are lower, but in the 802.11 kind of world, with 100mW
>> linear transmitters, there's probably not much cost difference.
>>
>> A different matter if you're running a kilowatt.
>
> It only takes a couple of milliWatts (kiloWatts aside) to ruin your
> day in competition for listening to microWatt signals. The desired
> signal's transmitter antenna would have to be literally within the
> near field of the active transmitter (and receiver's) antenna system.
> At that point, we may as well use a land-line with hybrid bridges.
>
> Software coming to the rescue for a hardware problem works only in
> multi-million dollar projects (fly-by-wire avionics comes to mind).

In these sorts of systems (the ones alluded to in the original news story), all the signals are in one FPGA (in digital form) and the powers are fairly low so all the RF stuff runs basically linear (DC to RF efficiency isn't a huge deal on a 50mW transmitter next to a 10 Watt FPGA)

So it *is* a wireline hybrid bridge.. but done with numbers instead of transformer windings.

The point I was getting at is that in these MIMO systems, there's already multiple receive and transmit channels with substantial signal processing going on. So it doesn't really matter much whether you do the cancellation/null forming in the Tx or Rx side. If you can do some clever canceling with Tx, and make it possible to use a cheaper Rx (or, run full duplex without needing huge dynamic range/linearity in the Rx) then that's probably a net good.

The technique proposed is very, very similar to one used to create increased stereo separation ("headphone sound") from conventional stereo speakers. You send a part of the Left channel signal to the right

speaker that just cancels the signal arriving at the right ear from the left speaker. It's a very, very impressive effect.

>
> 73's
> Richard Clark, KB7QHC

397. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-23 18:05:16 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2kiam6dajt8ufjvgl3ahej5j5pef2jkq6b@4ax.com>
Source record: 5698

On Wed, 23 Feb 2011 16:00:57 +0100, "RadioWaves" <radio@oidar> wrote:

>Today I have put my homepage online with information about the Magnetic Loop
>Antenna.
>
>http://www.qsl.net/pa7nr/
>
>PA7NR

Hi OM,

I especially like your coverage of your antenna from I3VHF.

On your second page, unfortunately, you have some misconceptions about
loop antennas.

All antennas exhibit the same noise characteristics. If you erected
a conventional (electric) dipole in the same space, it would exhibit
the same characteristics.

It is quite curious how you describe a front/back ratio for a dipole
(the loop is a magnetic dipole, and as such "should" show a
conventional dipole pattern).

As for loop efficiency, you state:
"When a magnetic loop antenna is used for
3.5 MHz with a perimeter of 4 meter (13.3 foot) ,
it has an efficiency of approximately 3%."
Please show the math.

73's
Richard Clark, KB7QHC

398. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-23 20:42:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i3ram65de9327a0q2pocfatjsvr79pv3ha@4ax.com>
Source record: 5699

On Wed, 23 Feb 2011 09:29:56 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>In these sorts of systems (the ones alluded to in the original news
>story), all the signals are in one FPGA (in digital form) and the powers
>are fairly low so all the RF stuff runs basically linear (DC to RF
>efficiency isn't a huge deal on a 50mW transmitter next to a 10 Watt FPGA)

This seems to be straying from what this is about: an antenna system.
You seem to imply that the 10W FPGA is a source of radiation to
confound things. How that arrived, I don't know.

The presence of uncontrolled reflecting surfaces in proximity to the
antenna system is the objection, and the introduction of unintended
out-of-phase reflection transmission signals combined with intended
receive signals present at the receiving antenna yields the classic
problem of S+N/N degradation.

>So it *is* a wireline hybrid bridge.. but done with numbers instead of
>transformer windings.

This does not answer the objection. Reality (conventional usage) will
bring these corrupting out-of-phase signals and the best that software
can offer is a regression of retries to obtain error corrected packets
sorted out a the cost of seriously depressed through-put rates.

This "invention" is more about being clever than useful and belongs in
a museum case next to the Babel Fish (whose utility is questionable
when you have to listen to Vogon poetry).

73's
Richard Clark, KB7QHC

399. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-23 20:53:00 UTC
From: RadioWave <radio@oidar>
Message-ID: <4d6573b8$0$16612$bf4948fe@news.tele2.nl>
Source record: 5700

Hi Richard,

Thank you for your reply and your interest in my homepage. I will answer your questions between the lines.

I will use the remarks that I get to improve the content of the article on my site.

> Hi OM,
>
> I especially like your coverage of your antenna from I3VHF.
>
> On your second page, unfortunately, you have some misconceptions about
> loop antennas.
>
> All antennas exhibit the same noise characteristics. If you erected
> a conventional (electric) dipole in the same space, it would exhibit
> the same characteristics.
>

I agree that they are electrically equivalents. However, my point is that the magnetic loop has useful benefits over the dipole antenna for RX under certain circumstances. I believe the magnetic loop construction will in many cases deliver an acceptable signal at the receiver with less disturbances such as atmospheric noise.

About external noise sources:

The loop is smaller (less surface) and therefore picks up less static noise. The dipole covers a larger area in which there can be sources of noise.

The pickup loop that connects the coax to the loop antenna is isolated from the antenna and it forms a shortcut for DC. The signal transfer is inductive.

The magnetic loop tunes to the frequency and there is no external antenna tuner needed.

About intenal receiver noise and mix-products:

The magnetic loop in itself is a band pass filter at the source of the receiving signal. It eliminates strong signals outside the received frequency. Therefore the receiver can receive the wanted signals with maximum sensitivity. The band pass functionality of the loop protects the radio from overloading. And as a result of that the radio will be quiet and doesn't need to pick a weak signal from an overloaded band. The bandwidth of

the I3VHF is very small in the 40 m band. AM modulation is not possible as the bandwidth of the loop is too small here for passing a standard AM signal. The signal will be clipped and the transceiver react to that which can be seen on the SWR meter. SWR starts to alternate on the rhythm of the modulation. The bandwidth of the antenna gets larger in the higher bands. I believe that in the 40 meter band the I3VHF only lets trough one frequency in SSB. The receiver is almost mute tuning higher or lower.

As for receiving the readability is more important than signal strength. The lower RX signal from the magnetic loop is often more readable than when using a full size dipole at ideal height. I think that the advantages are best in the Low bands, e.g. 80, 40, 30 meter.

For TX there are advantages of the magnetic loop over the full size dipole. When one has shortage of space. The high small band pass filter that the Magnetic Loop is, makes the radiated signal free of harmonics. Therefore there is a smaller chance of rfi to be expected .

Maybe some of the points here are not based on solid scientific research. But it is what I found doing experiments with the loops.

> It is quite curious how you describe a front/back ratio for a dipole
> (the loop is a magnetic dipole, and as such "should" show a
> conventional dipole pattern).
>

The data is based on the specifications of the manufacturer of the I3VHF loop antenna.

http://www.ciromazzoni.com/English/Loop%20Antenna/Loop%20Baby.htm

In the manual, page 42, 43 there is a picture of the radiation pattern:

http://www.ciromazzoni.com/English/Loop%20Antenna/Manual.pdf

It also surprised me as I expected a dipole pattern.

> As for loop efficiency, you state:
> "When a magnetic loop antenna is used for
> 3.5 MHz with a perimeter of 4 meter (13.3 foot) ,
> it has an efficiency of approximately 3%."
> Please show the math.

The 3 % efficiency is hypothetical based on the outcome of calculations software that is available on the Internet.

For example the loop calculation software of G4FGQ.

>
> 73's
> Richard Clark, KB7QHC

Best Regards,

Norbert , PA7NR

400. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-23 22:29:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fe367ca8-fe13-4ffc-be67-b11be4d2679e@u24g2000prn.googlegroups.com>
Source record: 5551

On Feb 23, 8:39 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:b5d204be-2da4-40e5-a779-631a197fa1f0@o30g2000pra.googlegroups.com...
> On Feb 22, 5:53 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Put on CB antenna the cathode ray trap (vacuum tube) and measure the
> > anticathode to ground current.
> > S*
> >oh yeah, riddle me this... infra-red light is another form of
>
> electromagnetic energy which can be picked up from the heat of your
> body by an IR camera... since your body is radiating em waves
> continuously why aren't you always charged??
>
> I am emitting (loss) electrons and I am always positively charged.
See:http://www.siliconfareast.com/tribo_series.htm
> It seams that in your area the physics laws do not work.
> S*

triboelectric charging can result in you being positive or negative...
and is not related to IR radiation you are emitting all the time. lay
still flat on the ground and you will not be triboelectrically
charged, but you will be constantly radiating IR radiation.

401. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 01:17:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bmabm6hdsgg1qs3gf503qed2f9u6fdojj2@4ax.com>
Source record: 5552

On Wed, 23 Feb 2011 21:53:00 +0100, "RadioWave" <radio@oidar> wrote:

>Hi Richard,
>
>Thank you for your reply and your interest in my homepage. I will answer
>your questions between the lines.

I will do the same.

>I will use the remarks that I get to improve the content of the article on
>my site.
>
>> Hi OM,
>>
>> I especially like your coverage of your antenna from I3VHF.
>>
>> On your second page, unfortunately, you have some misconceptions about
>> loop antennas.
>>
>> All antennas exhibit the same noise characteristics. If you erected
>> a conventional (electric) dipole in the same space, it would exhibit
>> the same characteristics.
>>
>
>I agree that they are electrically equivalents. However, my point is that
>the magnetic loop has useful benefits over the dipole antenna for RX under
>certain circumstances. I believe the magnetic loop construction will in many
>cases deliver an acceptable signal at the receiver with less disturbances
>such as atmospheric noise.

Hi Norbert,

Demonstrable proof shows otherwise.

>About external noise sources:
>
>The loop is smaller (less surface) and therefore picks up less static noise.

Static is indistinguishable from the RF you want to hear. In other
words static is RF, signals are RF. If your small loop picks up less
of one, it picks up less of both. However, this "picks up less" is
arguable.

>The dipole covers a larger area in which there can be sources of noise.

Reread my statement: "If you erected a conventional (electric) dipole
IN THE SAME SPACE."

>The pickup loop that connects the coax to the loop antenna is isolated from
>the antenna and it forms a shortcut for DC. The signal transfer is
>inductive.

This is a tautology, not a reason.

>The magnetic loop tunes to the frequency and there is no external antenna
>tuner needed.

Here, the Q of the tuned loop DOES contribute to less interference of
out-of-band signals. It does not reduce interference to in-band
signals. Noise is not specific to frequency, although single
frequency emitters can be called noise (unwanted).

>About intenal receiver noise and mix-products:
>
>The magnetic loop in itself is a band pass filter at the source of the
>receiving signal. It eliminates strong signals outside the received
>frequency. Therefore the receiver can receive the wanted signals with
>maximum sensitivity. The band pass functionality of the loop protects the
>radio from overloading. And as a result of that the radio will be quiet and
>doesn't need to pick a weak signal from an overloaded band. The bandwidth of
>the I3VHF is very small in the 40 m band. AM modulation is not possible as
>the bandwidth of the loop is too small here for passing a standard AM
>signal. The signal will be clipped and the transceiver react to that which
>can be seen on the SWR meter. SWR starts to alternate on the rhythm of the
>modulation. The bandwidth of the antenna gets larger in the higher bands. I
>believe that in the 40 meter band the I3VHF only lets trough one frequency
>in SSB. The receiver is almost mute tuning higher or lower.

Barring problems of lacking a choke on your control line introducing
SWR issues, I would tend to agree.

>As for receiving the readability is more important than signal strength. The
>lower RX signal from the magnetic loop is often more readable than when
>using a full size dipole at ideal height. I think that the advantages are
>best in the Low bands, e.g. 80, 40, 30 meter.

You have a lower signal because you have a lower antenna. Let's not
turn a deficit into a glowing recommendation - especially when you go
to transmit you lose that same gain from low height.

>For TX there are advantages of the magnetic loop over the full size dipole.
>When one has shortage of space. The high small band pass filter that the
>Magnetic Loop is, makes the radiated signal free of harmonics. Therefore
>there is a smaller chance of rfi to be expected .

A small (electric) dipole is identical in characteristics. It simply
doesn't come built with its own tuning mechanism.

Your arguments are not about antenna, but tuning.

>Maybe some of the points here are not based on solid scientific research.
>But it is what I found doing experiments with the loops.
>
>> It is quite curious how you describe a front/back ratio for a dipole
>> (the loop is a magnetic dipole, and as such "should" show a
>> conventional dipole pattern).
>>
>
>The data is based on the specifications of the manufacturer of the I3VHF
>loop antenna.
>
>http://www.ciromazzoni.com/English/Loop%20Antenna/Loop%20Baby.htm

First thing I noticed was the loop on a tower.
>
>In the manual, page 42, 43 there is a picture of the radiation pattern:
>
>http://www.ciromazzoni.com/English/Loop%20Antenna/Manual.pdf
>
>It also surprised me as I expected a dipole pattern.
>
>> As for loop efficiency, you state:
>> "When a magnetic loop antenna is used for
>> 3.5 MHz with a perimeter of 4 meter (13.3 foot) ,
>> it has an efficiency of approximately 3%."
>> Please show the math.
>
>The 3 % efficiency is hypothetical based on the outcome of calculations
>software that is available on the Internet.

I presume this is for the MIDI loop with a 2M diameter. The claim
offered is that it exhibits a Q of 1500 at 3.5MHz. The radiation
resistance for that size of loop is 0.49 Ohm. So, if 3% of the power
goes to 0.49 Ohm, then 97% of the power must go to heating up the
large tubular structure's Ohmic resistance (which would be very high,
and quite remarkable for that mass). Let's consider that you took an
Ohmmeter and measured half an Ohm in the structure, then you would be
losing only 50%, not 97%.

If you short your Ohmmeter leads together, I bet they have less than
half an Ohm resistance, why should this massive structure have more
loss than simple wire?

The argument would also have to answer the high Q (that much loss is
very low Q).

>For example the loop calculation software of G4FGQ.

Give us the entry data and the formula.

73's
Richard Clark, KB7QHC

402. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 08:52:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d661c3d$0$2460$65785112@news.neostrada.pl>
Source record: 5553

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:fe367ca8-fe13-4ffc-be67-b11be4d2679e@u24g2000prn.googlegroups.com...
On Feb 23, 8:39 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
> >> Put on CB antenna the cathode ray trap (vacuum tube) and measure the
>> > anticathode to ground current.

> >oh yeah, riddle me this... infra-red light is another form of
>> electromagnetic energy which can be picked up from the heat of your
> body by an IR camera... since your body is radiating em waves
> continuously why aren't you always charged??
>
>> I am emitting (loss) electrons and I am always positively charged.
>> See:http://www.siliconfareast.com/tribo_series.htm
>> It seams that in your area the physics laws do not work.

>triboelectric charging can result in you being positive or negative...
and is not related to IR radiation you are emitting all the time. lay
still flat on the ground and you will not be triboelectrically
charged, but you will be constantly radiating IR radiation.

Excellent thinking. If I am laying on the ground I constantly pump electrons
from the ground into the air without being charged. Exactly like your
transmitting antennas connected with the ground or chassis. Without
connection to ground they becomes positively charged.

Are you able to measure the static voltage of a human skin?
S*

403. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 12:26:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4a0ebd64-37c4-4ac7-8e8d-4d86ea844894@r19g2000prm.googlegroups.com>
Source record: 5554

On Feb 23, 7:17 pm, Richard Clark <kb7...@comcast.net> wrote:
> Static is indistinguishable from the RF you want to hear.

EM wave static is indistinguishable from RF waves. Pstatic, for
instance, is not caused by EM waves and is therefore, distinguishable.
--
73, Cecil, w5dxp.com

404. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 19:08:30 UTC
From: RadioWave <radio@oidar>
Message-ID: <4d66adfe$0$24947$bf4948fe@news.tele2.nl>
Source record: 5555

>>> All antennas exhibit the same noise characteristics. If you erected
>>> a conventional (electric) dipole in the same space, it would exhibit
>>> the same characteristics.
>>>
>>
>>I agree that they are electrically equivalents. However, my point is that
>>the magnetic loop has useful benefits over the dipole antenna for RX under
>>certain circumstances. I believe the magnetic loop construction will in
>>many
>>cases deliver an acceptable signal at the receiver with less disturbances
>>such as atmospheric noise.
> Demonstrable proof shows otherwise.
>

Where can I read about the proof?

>>About external noise sources:
>>
>>The loop is smaller (less surface) and therefore picks up less static
>>noise.
>
> Static is indistinguishable from the RF you want to hear. In other
> words static is RF, signals are RF. If your small loop picks up less
> of one, it picks up less of both. However, this "picks up less" is
> arguable.
>

Precipitation Static (p-static) can be different.

>>The dipole covers a larger area in which there can be sources of noise.
>
> Reread my statement: "If you erected a conventional (electric) dipole
> IN THE SAME SPACE."
>

In a practical situation, for instance a 20 meter long dipole over a
building picks up electro smog from the floors underneath, the loop covers a
small space and is physically further away from part of the sources.

In free space high in the sky they will pick up the same noise, I
agree.

>>The magnetic loop tunes to the frequency and there is no external antenna
>>tuner needed.
>

> Here, the Q of the tuned loop DOES contribute to less interference of
> out-of-band signals. It does not reduce interference to in-band
> signals. Noise is not specific to frequency, although single
> frequency emitters can be called noise (unwanted).
>

The bandwidth is so narrow in the 40 meter band (I3VHF) that only a few kHz
so there is a smaller chance of strong out
of band signals.

By the way, having to tune the loop every time when changing frequency is a
mayor disadvantage of tuned magnetic loops. The MFJ loop can be tuned rather
fast and the larger bandwidth makes it easier to hear within several kHz
from the tuned frequency.

>>As for receiving the readability is more important than signal strength.
>>The
>>lower RX signal from the magnetic loop is often more readable than when
>>using a full size dipole at ideal height. I think that the advantages are
>>best in the Low bands, e.g. 80, 40, 30 meter.
>
> You have a lower signal because you have a lower antenna. Let's not
> turn a deficit into a glowing recommendation - especially when you go
> to transmit you lose that same gain from low height.
>

I don't think that it's just a matter of height. But maybe you are right. I
can't put up a full size verticale on my balcony to compare.

A magnetic loop will work indoor and outdoor. Low on the ground and high in
the sky. And without a counterpoise. Dipoles require space. Verticals
require counterpoise. When there is little space or other restrictions the
loop is a nice alternative.

For transmitting a magnetic loop can be also interesting when there is no
space for a full size antenna.

One could also for example use the full size antenna for TX and the magnetic
loop as an
alternative for RX.

It's not that I'm against dipoles because I reviewed some magnetic loops. I
appreciate the concept of the magnetic loop. I would use a dipole with open
feeding line and symetric tuner where possible.

>>For TX there are advantages of the magnetic loop over the full size
>>dipole.
>>When one has shortage of space. The high small band pass filter that the
>>Magnetic Loop is, makes the radiated signal free of harmonics. Therefore
>>there is a smaller chance of rfi to be expected .
>
> A small (electric) dipole is identical in characteristics. It simply
> doesn't come built with its own tuning mechanism.

>
> Your arguments are not about antenna, but tuning.
>

To me the antenna start at the Antenna connector of the tranceiver.

>>> As for loop efficiency, you state:
>>> "When a magnetic loop antenna is used for
>>> 3.5 MHz with a perimeter of 4 meter (13.3 foot) ,
>>> it has an efficiency of approximately 3%."
>>> Please show the math.
>>
>>The 3 % efficiency is hypothetical based on the outcome of calculations
>>software that is available on the Internet.
>
> I presume this is for the MIDI loop with a 2M diameter. The claim
> offered is that it exhibits a Q of 1500 at 3.5MHz. The radiation
> resistance for that size of loop is 0.49 Ohm. So, if 3% of the power
> goes to 0.49 Ohm, then 97% of the power must go to heating up the
> large tubular structure's Ohmic resistance (which would be very high,
> and quite remarkable for that mass). Let's consider that you took an
> Ohmmeter and measured half an Ohm in the structure, then you would be
> losing only 50%, not 97%.
>

> If you short your Ohmmeter leads together, I bet they have less than
> half an Ohm resistance, why should this massive structure have more
> loss than simple wire?
>
> The argument would also have to answer the high Q (that much loss is
> very low Q).
>

Maybe you can ask the manufacturer and post his explanation here.

>>For example the loop calculation software of G4FGQ.
>
> Give us the entry data and the formula.
>

You can download the loop calculation software and enter the dimensions of
the loop. I don't provide software.
I don't know the formula.

73's

Norbert, PA7NR

405. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 19:17:33 UTC
From: RadioWave <radio@oidar>
Message-ID: <4d66aeda$0$1672$bf4948fe@news.tele2.nl>
Source record: 5556

>>> All antennas exhibit the same noise characteristics. If you erected
>>> a conventional (electric) dipole in the same space, it would exhibit
>>> the same characteristics.
>>>
>>
>>I agree that they are electrically equivalents. However, my point is that
>>the magnetic loop has useful benefits over the dipole antenna for RX under
>>certain circumstances. I believe the magnetic loop construction will in
>>many
>>cases deliver an acceptable signal at the receiver with less disturbances
>>such as atmospheric noise.
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Where can I read about the proof?

>>About external noise sources:
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>>The loop is smaller (less surface) and therefore picks up less static
>>noise.
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> Static is indistinguishable from the RF you want to hear. In other
> words static is RF, signals are RF. If your small loop picks up less
> of one, it picks up less of both. However, this "picks up less" is
> arguable.
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Precipitation Static (p-static) can be different.

>>The dipole covers a larger area in which there can be sources of noise.
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> Reread my statement: "If you erected a conventional (electric) dipole
> IN THE SAME SPACE."
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In a practical situation, for instance a 20 meter long dipole over a high
building picks up electro smog over the full length from the floors
underneath, the loop covers a
small space and is physically further away from most of the sources.

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>>tuner needed.

>
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> out-of-band signals. It does not reduce interference to in-band
> signals. Noise is not specific to frequency, although single
> frequency emitters can be called noise (unwanted).
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The bandwidth is so narrow in the 40 meter band, only a few kHz.
So there is a smaller chance of strong out
of band signals.

By the way, having to tune the loop every time when changing frequency is a mayor disadvantage of tuned magnetic loops. The MFJ loop can be tuned rather quickly and the larger bandwidth (lower Q) makes it easier to hear stations within several kHz
from the tuned frequency.

>>As for receiving the readability is more important than signal strength.
>>The
>>lower RX signal from the magnetic loop is often more readable than when
>>using a full size dipole at ideal height. I think that the advantages are
>>best in the Low bands, e.g. 80, 40, 30 meter.
>
> You have a lower signal because you have a lower antenna. Let's not
> turn a deficit into a glowing recommendation - especially when you go
> to transmit you lose that same gain from low height.
>

I don't think that it's just a matter of height. But maybe you are right. I can't put up a full size verticale on my balcony to compare.

A magnetic loop will work indoor and outdoor. Low on the ground and high in the sky. And without a counterpoise. Dipoles require space. Verticals require counterpoise. When there is little space or other restrictions the loop is a nice alternative.

For transmitting a magnetic loop can be also interesting when there is no space for a full size antenna.

One could also for example use the full size antenna for TX and the magnetic loop as an
alternative for RX.

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>>dipole.
>>When one has shortage of space. The high small band pass filter that the
>>Magnetic Loop is, makes the radiated signal free of harmonics. Therefore
>>there is a smaller chance of rfi to be expected .
>

> A small (electric) dipole is identical in characteristics. It simply
> doesn't come built with its own tuning mechanism.
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>

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>>> As for loop efficiency, you state:
>>> "When a magnetic loop antenna is used for
>>> 3.5 MHz with a perimeter of 4 meter (13.3 foot) ,
>>> it has an efficiency of approximately 3%."
>>> Please show the math.
>>
>>The 3 % efficiency is hypothetical based on the outcome of calculations
>>software that is available on the Internet.
>
> I presume this is for the MIDI loop with a 2M diameter. The claim
> offered is that it exhibits a Q of 1500 at 3.5MHz. The radiation
> resistance for that size of loop is 0.49 Ohm. So, if 3% of the power
> goes to 0.49 Ohm, then 97% of the power must go to heating up the
> large tubular structure's Ohmic resistance (which would be very high,
> and quite remarkable for that mass). Let's consider that you took an
> Ohmmeter and measured half an Ohm in the structure, then you would be
> losing only 50%, not 97%.
>

> If you short your Ohmmeter leads together, I bet they have less than
> half an Ohm resistance, why should this massive structure have more
> loss than simple wire?
>
> The argument would also have to answer the high Q (that much loss is
> very low Q).
>

Maybe you can ask the manufacturer and post his explanation here.

>>For example the loop calculation software of G4FGQ.
>
> Give us the entry data and the formula.
>

You can download the loop calculation software and enter the dimensions of
the loop. I don't have information about the formula.

Best 73's

Norbert, PA7NR

406. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 20:18:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8addm61mp9pjvcffs0e2qhdihfn6ctl76r@4ax.com>
Source record: 5557

On Thu, 24 Feb 2011 20:17:33 +0100, "RadioWave" <radio@oidar> wrote:

>> Demonstrable proof shows otherwise.
>>
>
>Where can I read about the proof?

Hi Norbert,

Usually in the first chapter of any college text on antennas.

>Precipitation Static (p-static) can be different.

An electrical discharge that is harmonic rich still qualifies as RF.
That pulse electric discharge is going to create a pulse magnetic
field. Guess what? A magnetic antenna (as a loop is often described)
will pick up that field as readily as an electric antenna.

>The bandwidth is so narrow in the 40 meter band, only a few kHz.
>So there is a smaller chance of strong out
>of band signals.
>
>By the way, having to tune the loop every time when changing frequency is a
>mayor disadvantage of tuned magnetic loops. The MFJ loop can be tuned rather
>quickly and the larger bandwidth (lower Q) makes it easier to hear stations
>within several kHz
>from the tuned frequency.

These are operational characteristics of a tuned loop. Look at your
own subject heading: Magnetic Loop - not the same thing.

In fact, the term Magnetic Loop is an invented term. RF is both
magnetic and electric simultaneously. All antennas respond to both.
Your tuned loop exhibits astronomically high electric potentials.
Would you care to guess how high the potentials are for receive as
compared to the field potential it experiences?

Let's put some fantastical numbers to this last question. A reception
field of 1V/M will exhibit ______ V on the capacitive elements of a
resonant tuned loop with a Q of 1500.

>I don't think that it's just a matter of height. But maybe you are right. I
>can't put up a full size verticale on my balcony to compare.
>
>A magnetic loop will work indoor and outdoor. Low on the ground and high in
>the sky. And without a counterpoise. Dipoles require space. Verticals

>require counterpoise. When there is little space or other restrictions the
>loop is a nice alternative.

A 2 meter wide dipole occupies less space than a 2 meter wide loop.
Once the dipole is matched, performance will be identical.

>For transmitting a magnetic loop can be also interesting when there is no
>space for a full size antenna.

You could as easily say the same for a full size loop. Do you notice
any irony?

>One could also for example use the full size antenna for TX and the magnetic
>loop as an
>alternative for RX.

Why?

>To me the antenna start at the Antenna connector of the tranceiver.

Then a lot has been unsaid for a tuner to any dipole.

>>>> As for loop efficiency, you state:
>>>> "When a magnetic loop antenna is used for
>>>> 3.5 MHz with a perimeter of 4 meter (13.3 foot) ,
>>>> it has an efficiency of approximately 3%."
>>>> Please show the math.
>>>
>>>The 3 % efficiency is hypothetical based on the outcome of calculations
>>>software that is available on the Internet.
>>
>> I presume this is for the MIDI loop with a 2M diameter. The claim
>> offered is that it exhibits a Q of 1500 at 3.5MHz. The radiation
>> resistance for that size of loop is 0.49 Ohm. So, if 3% of the power
>> goes to 0.49 Ohm, then 97% of the power must go to heating up the
>> large tubular structure's Ohmic resistance (which would be very high,
>> and quite remarkable for that mass). Let's consider that you took an
>> Ohmmeter and measured half an Ohm in the structure, then you would be
>> losing only 50%, not 97%.
>>
>
>> If you short your Ohmmeter leads together, I bet they have less than
>> half an Ohm resistance, why should this massive structure have more
>> loss than simple wire?
>>
>> The argument would also have to answer the high Q (that much loss is
>> very low Q).
>>
>Maybe you can ask the manufacturer and post his explanation here.

Actually, you need to do this yourself as these are all your choices.
This is your offered explanation and your offered testimony. In fact,
in this, a technical forum, there is every expectation that you could

reasonably perform these technical matters and respond with results.
Do you have an Ohmmeter? Are you proficient in its use?

If you cannot on your own, and without prompting, reconcile 3%
efficiency with a Q of 1500, then you shouldn't be offering technical
advice about Q or efficiency.

>>>For example the loop calculation software of G4FGQ.
>>
>> Give us the entry data and the formula.

>You can download the loop calculation software and enter the dimensions of
>the loop. I don't have information about the formula.

I have corresponded with G4FGQ the software designer for YEARS.
Consult the archives. I understand how it works. The question was
for you to write what YOU did, and not what someone else might do.

73's
Richard Clark, KB7QHC

407. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 20:59:19 UTC
From: RadioWave <radio@oidar>
Message-ID: <4d66c6bf$0$25145$bf4948fe@news.tele2.nl>
Source record: 5558

"Richard Clark" <kb7qhc@comcast.net> schreef in bericht
news:8addm61mp9pjvcffs0e2qhdihfn6ctl76r@4ax.com...
> On Thu, 24 Feb 2011 20:17:33 +0100, "RadioWave" <radio@oidar> wrote:
>

Hi Richard,

Thank you for the explanations. I have not had the intention to start a scientific discussion here on this subject. To me it is a hobby. With my homepage I just want to share some of my experience with magnetic loop antennas, just like many other radio amateurs do. And of course I am willing to reply to reactions from readers. But I will not further discuss about scientifically details.

Thank you.

Best Regards

73,

Norbert PA7NR

408. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-24 22:41:41 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9bc9c77f-eff7-41a4-9d0c-d8a97c6077a3@n16g2000prc.googlegroups.com>
Source record: 5559

On Feb 24, 8:52 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:fe367ca8-fe13-4ffc-be67-b11be4d2679e@u24g2000prn.googlegroups.com...
> On Feb 23, 8:39 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > >> Put on CB antenna the cathode ray trap (vacuum tube) and measure the
> >> > anticathode to ground current.
> > >oh yeah, riddle me this... infra-red light is another form of
> >> electromagnetic energy which can be picked up from the heat of your
> > > body by an IR camera... since your body is radiating em waves
> > > continuously why aren't you always charged??
>
> >> I am emitting (loss) electrons and I am always positively charged.
> >> See:http://www.siliconfareast.com/tribo_series.htm
> >> It seams that in your area the physics laws do not work.
> >triboelectric charging can result in you being positive or negative...
>
> and is not related to IR radiation you are emitting all the time. lay
> still flat on the ground and you will not be triboelectrically
> charged, but you will be constantly radiating IR radiation.
>
> Excellent thinking. If I am laying on the ground I constantly pump electrons
> from the ground into the air without being charged. Exactly like your
> transmitting antennas connected with the ground or chassis. Without
> connection to ground they becomes positively charged.
>
> Are you able to measure the static voltage of a human skin?
> S*

no, no static voltage on human skin... and no current from ground to
measure either.

409. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 01:06:39 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ik6vb0$u0a$1@news.jpl.nasa.gov>
Source record: 5560

Richard Clark wrote:
> On Wed, 23 Feb 2011 09:29:56 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> In these sorts of systems (the ones alluded to in the original news
>> story), all the signals are in one FPGA (in digital form) and the powers
>> are fairly low so all the RF stuff runs basically linear (DC to RF
>> efficiency isn't a huge deal on a 50mW transmitter next to a 10 Watt FPGA)
>
> This seems to be straying from what this is about: an antenna system.
> You seem to imply that the 10W FPGA is a source of radiation to
> confound things. How that arrived, I don't know.

No.. the original article was talking about low power 802.11/802.16 systems (which radiate less than a watt).. At that power level, the fact that a suitably good linear amplifier is going to consume a fair amount of power (20% efficiency would be doing well) is insignificant next to the power consumed by the digital processing necessary to implement the cancellation algorithm.

>
> The presence of uncontrolled reflecting surfaces in proximity to the
> antenna system is the objection, and the introduction of unintended
> out-of-phase reflection transmission signals combined with intended
> receive signals present at the receiving antenna yields the classic
> problem of S+N/N degradation.
>
>> So it *is* a wireline hybrid bridge.. but done with numbers instead of
>> transformer windings.
>
> This does not answer the objection. Reality (conventional usage) will
> bring these corrupting out-of-phase signals and the best that software
> can offer is a regression of retries to obtain error corrected packets
> sorted out a the cost of seriously depressed through-put rates.

No.. I would expect that this would actually work fairly well. The idea is to allow full duplex operation, rather than the current half duplex used in, e.g., 802.11b/g. That would double the throughput (if traffic on the network were symmetric).

If you want to run full duplex, you have to have some way to "see" the received signal in the face of a much larger transmit signal. Since you're transmitting, you've got a copy of the transmit signal, so it's really a matter of figuring out what the transfer function is from transmitter to (self)receiver. If the external environment were fixed,

then one could probably do it with a coupler with adjustable gain and phase. However, as you point out, the environment isn't constant, so you need a way to adaptively adjust. You could do it with a single transmit and single receive antenna, but that puts a tough dynamic range requirement on the system. Say, -20dB coupling from Tx to Rx antenna, +30dBm on transmitter, -100dBm received signal.. you need 110dB instantaneous dynamic range.. that would need a 18-20 bit converter, which doesn't exist at a reasonable price in the 10-50 MHz sample rates needed.

The idea of using a pair of transmitters to reduce the dynamic range requirement on the receiver is clever. I would think you could get 40dB suppression without too much trouble, which gets your instantaneous dynamic range requirement down to 70dB, which is starting to be in range (there are inexpensive fast 14 bit converters, for instance)

>
> This "invention" is more about being clever than useful and belongs in
> a museum case next to the Babel Fish (whose utility is questionable
> when you have to listen to Vogon poetry).
>
> 73's
> Richard Clark, KB7QHC

410. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 02:21:28 UTC
From: wa8qnn <wa8qnn.7acefd8@radiobanter.com>
Message-ID: <wa8qnn.7acefd8@radiobanter.com>
Source record: 5561

ka7niq;732465 Wrote:
> I agree, just put it up, feed it with open wire feeders, tune it and
> talk. What you get is what you get.

I agree with ka7niq. Open wire is the only way to go. I'm using a 135
foot dipole with open wire and it works great.

Larry
wa8qnn

--
wa8qnn

411. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 08:34:45 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d6769ac$0$2448$65785112@news.neostrada.pl>
Source record: 5562

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:9bc9c77f-eff7-41a4-9d0c-d8a97c6077a3@n16g2000prc.googlegroups.com...
On Feb 24, 8:52 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Are you able to measure the static voltage of a human skin?
> S*

>no, no static voltage on human skin... and no current from ground to
measure either.

And no electrons at all. Nothing jump off and come back. Only
incompressible, massles electric and magnetic fluids.

But the electrons exist. All radiations are the electrons vibrations. All
waves are asymmetric. So must be the electrons transport, Hot body loss
electrons. The all is to measure.
S*

412. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 09:11:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d677266$0$2447$65785112@news.neostrada.pl>
Source record: 5563

"RadioWave" <radio@oidar> wrote
news:4d66adfe$0$24947$bf4948fe@news.tele2.nl...
>>>>>
> A magnetic loop will work indoor and outdoor. Low on the ground and high
> in
> the sky. And without a counterpoise. Dipoles require space. Verticals
> require counterpoise. When there is little space or other restrictions the
> loop is a nice alternative.

Your loop is not magnetic. Look at Fig. 2:
http://www.antiquewireless.org/otb/lodge1102.htm

Radio wavesare are radiated from the nodes. In dipole the nodes are created
by reflected wave (waves in the opposite direction). In the loop the waves
travel in oppsite direction and create the nodes also.

Verticals work like the Kundt's tube. Dipoles like the two Kundt's tubes.
A loop is like a dipole where the reflected wave is replacesd by the on from
the second wire.

Hertz has the dipole and the loop:
http://people.seas.harvard.edu/~jones/cscie129/nu_lectures/lecture6/hertz/S_p11.gif

S*
>

413. Re: A small riddle, just for fun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 11:53:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <104fb336-28e5-4afc-b6d4-2412d54ead81@i39g2000prd.googlegroups.com>
Source record: 5564

On Feb 25, 8:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:9bc9c77f-eff7-41a4-9d0c-d8a97c6077a3@n16g2000prc.googlegroups.com...
> On Feb 24, 8:52 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Are you able to measure the static voltage of a human skin?
> > S*
> >no, no static voltage on human skin... and no current from ground to
>
> measure either.
>
> And no electrons at all. Nothing jump off and come back. Only
> incompressible, massles electric and magnetic fluids.
>
> But the electrons exist. All radiations are the electrons vibrations. All
> waves are asymmetric. So must be the electrons transport, Hot body loss
> electrons. The all is to measure.
> S*

well, you go ahead and measure it, and take a picture of the
asymmetric waves while you are at it... once you publish in a peer
reviewed journal i'll start talking to you again, this is getting
rather boring since you refuse to learn.

414. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 12:04:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <834b8243-56c3-46ea-b603-80d582b23008@a8g2000pri.googlegroups.com>
Source record: 5565

On Feb 25, 9:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "RadioWave" <radio@oidar> wrotenews:4d66adfe$0$24947$bf4948fe@news.tele2.nl...
>
>
>
> > A magnetic loop will work indoor and outdoor. Low on the ground and high
> > in
> > the sky. And without a counterpoise. Dipoles require space. Verticals
> > require counterpoise. When there is little space or other restrictions the
> > loop is a nice alternative.
>
> Your loop is not magnetic. Look at Fig.
2:http://www.antiquewireless.org/otb/lodge1102.htm
>
> Radio wavesare are radiated from the nodes. In dipole the nodes are created
> by reflected wave (waves in the opposite direction). In the loop the waves
> travel in oppsite direction and create the nodes also.
>
> Verticals work like the Kundt's tube. Dipoles like the two Kundt's tubes.
> A loop is like a dipole where the reflected wave is replacesd by the on from
> the second wire.
>
> Hertz has the dipole and the
loop:http://people.seas.harvard.edu/~jones/cscie129/nu_lectures/lecture6/h...
>
> S*
>
>

don't bother arguing with him, he is stuck in about 1880 with jumping
electrons and a charged aether.

415. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 12:41:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8807ce51-a9b5-44ee-8d0e-97fa9592b7c5@k15g2000prk.googlegroups.com>
Source record: 5566

On Feb 25, 6:04 am, K1TTT <k1...@arrl.net> wrote:
> he is stuck in about 1880 with ... a charged aether.

If there is no charged aether, where does the "quantized field in a vacuum" come from? From Wikipedia: "In quantum field theory, the Casimir effect and the Casimir-Polder force are physical forces arising from a quantized field. The typical example is of two uncharged metallic plates in a vacuum, ..."
--
73, Cecil, w5dxp.com

416. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 12:54:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2c5774de-dea2-47c6-a276-2a801dbe502a@a11g2000pro.googlegroups.com>
Source record: 5567

On Feb 25, 12:41 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Feb 25, 6:04 am, K1TTT <k1...@arrl.net> wrote:
>
> > > he is stuck in about 1880 with ... a charged aether.
>
> If there is no charged aether, where does the "quantized field in a
> vacuum" come from? From Wikipedia: "In quantum field theory, the
> Casimir effect and the Casimir-Polder force are physical forces
> arising from a quantized field. The typical example is of two
> uncharged metallic plates in a vacuum, ..."
> --
> 73, Cecil, w5dxp.com

i am referring to a theory from around 1880 that had a sea of
electrons as the aether for propagating electromagnetic waves.

417. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 17:02:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d67e0a0$0$2459$65785112@news.neostrada.pl>
Source record: 5568

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:2c5774de-dea2-47c6-a276-2a801dbe502a@a11g2000pro.googlegroups.com...
On Feb 25, 12:41 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Feb 25, 6:04 am, K1TTT <k1...@arrl.net> wrote:
>
>> > he is stuck in about 1880 with ... a charged aether.
>
>> If there is no charged aether, where does the "quantized field in a
> vacuum" come from? From Wikipedia: "In quantum field theory, the
> Casimir effect and the Casimir-Polder force are physical forces
> arising from a quantized field. The typical example is of two
> uncharged metallic plates in a vacuum, ..."
> --
> 73, Cecil, w5dxp.com

>i am referring to a theory from around 1880 that had a sea of
electrons as the aether for propagating electromagnetic waves.

It is from 1846: http://www.padrak.com/ine/FARADAY1.html
Faraday wrote:
"I suppose we may compare together the matter of the aether and ordinary
matter (as, for instance, the copper of the wire through which the
electricity is conducted), and consider them as alike in their essential
constitution; i.e. either as both composed of little nuclei, considered in
the abstract as matter, and of force or power associated with these nuclei."

Aether and a sea of electrons (as the rare plasma) is not the same.The other
scientists needs a mystery aether where a strain, stress and flows take
place. Faradays electrons vibrate.
S*

418. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 17:07:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a76e1b84-3764-4c5f-93a5-1ec83e541ed1@l14g2000pre.googlegroups.com>
Source record: 5569

```
On Feb 25, 5:02 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:2c5774de-dea2-47c6-a276-2a801dbe502a@a11g2000pro.googlegroups.com...
> On Feb 25, 12:41 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Feb 25, 6:04 am, K1TTT <k1...@arrl.net> wrote:
>
> >> > he is stuck in about 1880 with ... a charged aether.
>
> >> If there is no charged aether, where does the "quantized field in a
> > > vacuum" come from? From Wikipedia: "In quantum field theory, the
> > > Casimir effect and the Casimir-Polder force are physical forces
> > > arising from a quantized field. The typical example is of two
> > > uncharged metallic plates in a vacuum, ..."
> > > --
> > > 73, Cecil, w5dxp.com
> >i am referring to a theory from around 1880 that had a sea of
>
> electrons as the aether for propagating electromagnetic waves.
>
> It is from 1846:http://www.padrak.com/ine/FARADAY1.htmlFaraday wrote:
>
> "I suppose we may compare together the matter of the aether and ordinary
> matter (as, for instance, the copper of the wire through which the
> electricity is conducted), and consider them as alike in their essential
> constitution; i.e. either as both composed of little nuclei, considered in
> the abstract as matter, and of force or power associated with these nuclei."
>
> Aether and a sea of electrons (as the rare plasma) is not the same.The other
> scientists needs a mystery aether where a strain, stress and flows take
> place. Faradays electrons vibrate.
> S*

sorry, 1846, even older than i thought... aether, sea of electrons,
rare plasma, none are necessary for electromagnetic waves.
```

419. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 18:05:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d67ef73$0$2452$65785112@news.neostrada.pl>
Source record: 5570

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:a76e1b84-3764-4c5f-93a5-1ec83e541ed1@l14g2000pre.googlegroups.com...
On Feb 25, 5:02 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> napisal w
> wiadomoscinews:2c5774de-dea2-47c6-a276-2a801dbe502a@a11g2000pro.googlegroups.com...
> On Feb 25, 12:41 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Feb 25, 6:04 am, K1TTT <k1...@arrl.net> wrote:
>
> >> > he is stuck in about 1880 with ... a charged aether.
>
> >> If there is no charged aether, where does the "quantized field in a
> > > vacuum" come from? From Wikipedia: "In quantum field theory, the
> > > Casimir effect and the Casimir-Polder force are physical forces
> > > arising from a quantized field. The typical example is of two
> > > uncharged metallic plates in a vacuum, ..."
> > > --
> > > 73, Cecil, w5dxp.com
> >i am referring to a theory from around 1880 that had a sea of
>
> electrons as the aether for propagating electromagnetic waves.
>
> It is from 1846:http://www.padrak.com/ine/FARADAY1.htmlFaraday wrote:
>
> "I suppose we may compare together the matter of the aether and ordinary
> matter (as, for instance, the copper of the wire through which the
> electricity is conducted), and consider them as alike in their essential
> constitution; i.e. either as both composed of little nuclei, considered in
> the abstract as matter, and of force or power associated with these
> nuclei."
>
> Aether and a sea of electrons (as the rare plasma) is not the same.The
> other
> scientists needs a mystery aether where a strain, stress and flows take
> place. Faradays electrons vibrate.
> S*

<sorry, 1846, even older than i thought... aether, sea of electrons,
rare plasma, none are necessary for electromagnetic waves.

EM are a paper waves. Real radio waves need a medium.
S*

420. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-25 21:14:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <043637d5-6313-4496-af00-61cbd47f259d@d12g2000prj.googlegroups.com>
Source record: 5571

On Feb 25, 6:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:a76e1b84-3764-4c5f-93a5-1ec83e541ed1@l14g2000pre.googlegroups.com...
> On Feb 25, 5:02 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "K1TTT" <k1...@arrl.net> napisal w
> > wiadomoscinews:2c5774de-dea2-47c6-a276-2a801dbe502a@a11g2000pro.googlegroups.com...
> > On Feb 25, 12:41 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Feb 25, 6:04 am, K1TTT <k1...@arrl.net> wrote:
>
> > >> > he is stuck in about 1880 with ... a charged aether.
>
> > >> If there is no charged aether, where does the "quantized field in a
> > > > vacuum" come from? From Wikipedia: "In quantum field theory, the
> > > > Casimir effect and the Casimir-Polder force are physical forces
> > > > arising from a quantized field. The typical example is of two
> > > > uncharged metallic plates in a vacuum, ..."
> > > > --
> > > > 73, Cecil, w5dxp.com
> > > >i am referring to a theory from around 1880 that had a sea of
>
> > electrons as the aether for propagating electromagnetic waves.
>
> > It is from 1846:http://www.padrak.com/ine/FARADAY1.htmlFaradaywrote:
>
> > "I suppose we may compare together the matter of the aether and ordinary
> > matter (as, for instance, the copper of the wire through which the
> > electricity is conducted), and consider them as alike in their essential
> > constitution; i.e. either as both composed of little nuclei, considered in
> > the abstract as matter, and of force or power associated with these
> > nuclei."
>
> > Aether and a sea of electrons (as the rare plasma) is not the same.The
> > other
> > scientists needs a mystery aether where a strain, stress and flows take
> > place. Faradays electrons vibrate.
> > S*
>
> <sorry, 1846, even older than i thought... aether, sea of electrons,
> rare plasma, none are necessary for electromagnetic waves.

>
> EM are a paper waves. Real radio waves need a medium.
> S*

my em waves are made out of energy not paper... while Einstein says
they are interchangeable my radio would have a hard time receiving
paper.

421. Discount Wholesale Diesel Jeans

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 09:23:06 UTC
From: timberland boot <jialiushoe05@163.com>
Message-ID: <2d67b731-1da3-4404-9b81-e19b0ba0bfb5@j35g2000prb.googlegroups.com>
Source record: 5572
Cross-posted to: rec.radio.amateur.antenna,rec.birds

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Jeans=EVISU.COOGI.BBC.ARMANI.= http://www.jialiuonline.com/

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http://www.jialiuonline.com/)
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Discount Wholesale Coogi Jeans
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Discount Wholesale ECKO Jeans (

http://www.jialiuonline.com/)
Discount Wholesale ED Hardy Jeans
Discount Wholesale Evisu Jeans
Discount Wholesale G-STAR Jeans <free shipping paypal payment>
Discount Wholesale GUCCI Jeans
Discount Wholesale Iceberg Jeans
Discount Wholesale Kanji Jeans (

http://www.jialiuonline.com/)
Discount Wholesale Laguna Beach Jeans
Discount Wholesale Levi s Jeans
Discount Wholesale LRG Jeans <free shipping paypal payment>
Discount Wholesale LV Jeans
Discount Wholesale Prada Jeans (

http://www.jialiuonline.com/)
Discount Wholesale RMC Jeans

Discount Wholesale Roca Wear Jeans <free shipping paypal payment>
Discount Wholesale Rock&Republic Jeans
Discount Wholesale True Religion Jeans <free shipping paypal payment>
Discount Wholesale Versace Jeans
Discount Wholesale ZEN Jeans (

http://www.jialiuonline.com/)

http://www.jialiuonline.com/

422. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 14:46:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5225cb62-a264-454d-a4d9-618a5314a739@a21g2000prj.googlegroups.com>
Source record: 5573

On Feb 25, 6:54 am, K1TTT <k1...@arrl.net> wrote:
> i am referring to a theory from around 1880 that had a sea of
> electrons as the aether for propagating electromagnetic waves.

Change "sea of electrons" to "quantum soup" and the aether theory is
alive and well. Even photons need a structure through which to
propagate.
--
73, Cecil, w5dxp.com

423. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 14:59:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c401fcdd-da41-4289-b833-7a3296d92cbf@q40g2000prh.googlegroups.com>
Source record: 5574

On Feb 24, 2:18 pm, Richard Clark <kb7...@comcast.net> wrote:
> A magnetic antenna (as a loop is often described)
> will pick up that (P-static) field as readily as an electric antenna.

Actually the "P-static field" originates directly from electrons while
the EM field originates from photons. What a closed loop does with
those excess electrons is quite different from what a single-wire
dipole does with them. All points on a well-designed loop system have
a path to ground in addition to the signal path. That's not true for a
single-wire dipole. From 1/2 of a dipole, the signal path is the only
path. That's why undischarged dipole systems can arc during conditions
of P-static while loops don't arc. Wouldn't you say that an absence of
arcing is less noisy than the presence of arcing?
--
73, Cecil, w5dxp.com

424. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 15:05:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0db1ac78-3e76-496c-ae7a-eb642ffbbdf2@o39g2000prb.googlegroups.com>
Source record: 5575

On Feb 25, 3:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Radio wavesare are radiated from the nodes. In dipole the nodes are created
> by reflected wave (waves in the opposite direction). In the loop the waves
> travel in oppsite direction and create the nodes also.

In a dipole, the reflections are naturally from the impedance
discontinuity at the open ends of the dipole. In a loop, the
reflections on the antenna are from the impedance discontinuity at the
feedpoint.
--
73, Cecil, w5dxp.com

425. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 15:10:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5e8f8190-29d4-49d5-997f-73d412d88e97@x4g2000prf.googlegroups.com>
Source record: 5576

On Feb 25, 11:07 am, K1TTT <k1...@arrl.net> wrote:
> sorry, 1846, even older than i thought... aether, sea of electrons,
> rare plasma, none are necessary for electromagnetic waves.

On the contrary, a quantum soup is indeed required. If photons could
propagate without a structure, they could exit the universe but they,
like us, are trapped and confined to the universe.
--
73, Cecil, w5dxp.com

426. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 15:30:00 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b0fce95b-7329-475f-9556-852280902fae@t16g2000vbi.googlegroups.com>
Source record: 5577

Hello Richard,

I agree with you that several statements on Norbert's site will not hold when scientifically reviewed. However I think the way you respond will likely not result in better statements.

As the name of the newsgroup indicates; this is a radio amateur group and Norbert site starts with "Dutch amateur radio station". This may require another approach then you should use in a professional environment. If you prefer that, Edaboard.com (just an example) is a more suitable place.

Now the result is a professional reaction of Norbert:

> Thank you for the explanations. I have not had the intention to start a
> scientific discussion here on this subject. To me it is a hobby. With my
> homepage I just want to share some of my experience with magnetic loop
> antennas, just like many other radio amateurs do. And of course I am willing
> to reply to reactions from readers. But I will not further discuss about
> scientifically details.
>
> Thank you.
>
> Best Regards
>
> 73,
>
> Norbert PA7NR

Because of rain, I had to stop some activity so I took a pocket calculator, some of my own course material and a used envelope within reach.

A loop with diameter = 1.27m (4m perimeter), made from 20mm (diameter) copper has an inductance of about 3.4 uH (reactance of about 77 Ohm at 3.6 MHz).

Radiation resistance (no coupling with other objects) will be about 1 mOhm.

AC copper resistance due to skin effect will be about 30 mOhm (based on uniform current distribution over the circumference of the tubing).

Q factor should be in the range of 2500
Radiation efficiency will be about 3%

Directivity is 1.5
Voltage between ends (100W input): 6.3 kVp.
Current through loop about 82 Ap

A half wave dipole will have about 1kVp at each end (depends on conductor thickness).

Effective area of antenna will be about 23 sqm (in free space).

1Vrms incident plane wave field (2.65mW/sqm) will result in about 61mW output power (about 150Vp across the tuning capacitor).

You probably know that measuring a lower Q factor may result in less overall efficiency (coupling to dissipative objects) or higher overall efficiency (coupling to metallic conductors that reradiate).

With kind regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely

427. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 18:21:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d6944c7$0$2449$65785112@news.neostrada.pl>
Source record: 5578

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:5225cb62-a264-454d-a4d9-618a5314a739@a21g2000prj.googlegroups.com...
On Feb 25, 6:54 am, K1TTT <k1...@arrl.net> wrote:
>> i am referring to a theory from around 1880 that had a sea of
> electrons as the aether for propagating electromagnetic waves.

>Change "sea of electrons" to "quantum soup" and the aether theory is
alive and well. Even photons need a structure through which to
propagate.

Waves need medium to propagate. Some scientists prefer mystery aether some
ordinary matter. Faraday and Ludwig Lorenz were sure that in space is enough
mater and no mystery aether. Now everybody know that in space is ISM (rare
plasma + dust). It is ordinary matter (electrons, ions and dust). But radio
waves will be always the aether waves. So we also can say that aether
consists of ordinary particles.
S*
--

428. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-26 18:32:09 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d694730$0$2445$65785112@news.neostrada.pl>
Source record: 5579

"Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:0db1ac78-3e76-496c-ae7a-eb642ffbbdf2@o39g2000prb.googlegroups.com...
On Feb 25, 3:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Radio wavesare are radiated from the nodes. In dipole the nodes are
>> created
> by reflected wave (waves in the opposite direction). In the loop the waves
> travel in oppsite direction and create the nodes also.

>In a dipole, the reflections are naturally from the impedance
discontinuity at the open ends of the dipole. In a loop, the
reflections on the antenna are from the impedance discontinuity at the
feedpoint.

I do not understand. A loop can be made of wires without any discontinuity
at the feedpoint. Pulses send from supply must collide in the loop. The
nodes appear like in a dipole but without reflections. For what you need
reflections in a loop?
S*

429. A λ Ground Plane for 70 cm

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-27 16:21:13 UTC
From: vu2nan <vu2nan.7b03b99@radiobanter.com>
Message-ID: <vu2nan.7b03b99@radiobanter.com>
Source record: 5580

Please check out at:

http://tinyurl.com/6zu89tg

73

Nandu

--
vu2nan

430. Rubber Ducky Gimmick

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-27 17:22:01 UTC
From: vu2nan <vu2nan.7b08ff8@radiobanter.com>
Message-ID: <vu2nan.7b08ff8@radiobanter.com>
Source record: 5582

Here's the link:

http://nandustips.blogspot.com/2011/02/rubber-ducky-gimmick.html

73

Nandu

--
vu2nan

431. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-27 19:52:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f911e6f9-2991-49ad-98c0-3e999dc34591@d12g2000prj.googlegroups.com>
Source record: 5581

On Feb 26, 12:21 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> So we also can say that aether
> consists of ordinary particles.

It depends upon how one defines "ordinary". The structure of free space has existed since the big bang but man has only recently discovered the structure and is still somewhat ignorant of its configuration and characteristics. There is some evidence that the structure of space in which ordinary non-dark matter and non-dark energy exists, is made up of dark matter and dark energy.

> I do not understand.

A loop, like a dipole, is a standing wave antenna with a characteristic impedance in the few hundred ohms, e.g. 600 ohms. The reflections on a standing wave antenna have to originate from an impedance discontinuity. The feedpoint impedance of a standing wave antenna is Zfp = (Vfor + Vref)/(Ifor + Iref) where phasor math is used. Let's assume that the feedpoint impedance is 100+j0 ohms and the antenna is being fed with Z0=100 ohm feedline. There are no reflections on the feedline which means a Z0-match to 100 ohms exists at the antenna feedpoint. Assume the characteristic impedance of the antenna wire over ground is 600 ohms. The 600 ohm to 100 ohm impedance discontinuity at the feedpoint creates a reflection coefficient of 0.7. That's where the reflections on the standing wave loop antenna are coming from. One reason the feedpoint of a resonant loop is higher than for a 1/2WL dipole is that the reflection coefficient for the loop is 0.7 while the reflection coefficient for a dipole is obviously 1.0 at the ends of the dipole.

The concept may be easier to understand using a rhombic example. A terminated rhombic is terminated in the characteristic impedance of the antenna wire above ground, e.g. 600 ohms, which eliminates reflections on the antenna and turns it into a traveling wave antenna where the feedpoint impedance of the antenna is equal to the characteristic impedance of the antenna over a wide frequency range, i.e. Zfp = Vfor/Ifor, independent of frequency.

Removing the termination turns the rhombic antenna into a standing wave antenna and the feedpoint impedance becomes Zfp = (Vfor + Vref)/(Ifor + Iref), i.e. the feedpoint impedance is frequency dependent like other standing wave antennas.
--
73, Cecil, w5dxp.com

432. Re: A ¼ λ Ground Plane for 70 cm

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 00:46:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <bc1b65f0-626d-42c1-9b75-b297bb46e66f@w6g2000vbo.googlegroups.com>
Source record: 5583

On Feb 27, 11:21 am, vu2nan <vu2nan.7b03...@radiobanter.com> wrote:
> Please check out at:
>
> http://tinyurl.com/6zu89tg
>
> 73
>
> Nandu
>
> --
> vu2nan

I built one of those about 20 years ago to be able to hit the local repeaters, coverage was a little disappointing. going to a 5/8ths with 5/8ths radials made a noticeable difference and was nearly as easy to fabricate. The base of it with radials still adorns my chimney.

Jimmie

433. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 05:03:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <al7mm657osck94imuqr6bs06k3ib8tbmb4@4ax.com>
Source record: 5584

On Sat, 26 Feb 2011 07:30:00 -0800 (PST), Wimpie <wimabctel@tetech.nl>
wrote:

Hi Wimpie,

>This may
>require another approach then you should use in a professional
>environment. If you prefer that, Edaboard.com (just an example) is a
>more suitable place.
>
>Now the result is a professional reaction of Norbert:

Curious combination of conflicting sentiments, there. What is
suitable, and how should we recognize it?

>Radiation resistance (no coupling with other objects) will be about 1
>mOhm.

There are many source for computation, I chose one that closely agrees
with several at hand. Perhaps I made an entry error, so I will take
the opportunity to examine that possibility here:
Rr = 80 ï¿½ piï¿½ ï¿½ (dl/lambda)ï¿½
80 ï¿½ 9.87 ï¿½ (2/80)ï¿½
790 ï¿½ (0.025)ï¿½
790 ï¿½ 0.0006
0.49 Ohm

Of course, the possibility of mis-entry remains, and cross checking is
helpful given an in dependant validation. If I examine my text
further it uses as an example a smaller loop at a lower frequency
dl = 1m
F = 1MHz
(lambda = 300)
resulting in
Rr = 0.0084 Ohm
which is roughly 10 times your computed radiation resistance for a
larger loop at a smaller wavelength.

Now, having said that, and examining my text for further possibilities
of error, I find that, yes, I made an error. My computation was based
for an electric dipole, not a loop. Let us examine the Rr for a loop
from the equation from the same source:
Rr = 320 ï¿½ pi^6 ï¿½ (r/Lambda)^4
320 ï¿½ 961 ï¿½ (1/80)^4
307,645 ï¿½ 2.44^-8

0.0075 Ohm
This, too, is very different from your calculation, but certainly that error is eclipsed by my own first reckoning. However, what does this say about efficiency based upon the original design (but computed for another)?

However, I did first ask Norbert for the equation used and the parameters entered. Testing those results did not appear to be appealing in the face of contradicting testimonial. It should come as no surprise that many testimonials are tested here. Testimonials stand or fall in such tests, and those tests are retested (as has given rise to this and your response).

Curiously we entered into this with how the loop has superior qualities over the standard dipole, and then the same loop is cited as being very inefficient. How such contradictions are held within the space of a short thread is certainly a denial of engineering professionalism, but denial is not the standard of merit that is typically lauded in this forum. A hearty defense of wounded ego raises suspicion even further.

One consequence of that demurral brings us to a rather remarkable insight in comparing the radiation resistance of the electric dipole to the loop within the same spread of the loop (and in certainly a smaller volume of space). The electric dipole enjoys 60 times more radiation resistance that certainly impacts efficiency to the same degree. This, of course, presumes no further errors in computation or application.

73's
Richard Clark, KB7QHC

434. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 05:14:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c8bmm61sstouvti6cc8582iec1pl46nsbt@4ax.com>
Source record: 5585

On Thu, 24 Feb 2011 17:06:39 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>No.. the original article was talking about low power 802.11/802.16
>systems (which radiate less than a watt).. At that power level, the fact
>that a suitably good linear amplifier is going to consume a fair amount
>of power (20% efficiency would be doing well) is insignificant next to
>the power consumed by the digital processing necessary to implement the
>cancellation algorithm.

As I said, how that finds its way into antenna system consideration
still remains a mystery.

>No.. I would expect that this would actually work fairly well. The idea
>is to allow full duplex operation, rather than the current half duplex
>used in, e.g., 802.11b/g. That would double the throughput (if traffic
>on the network were symmetric).

Expectation is not explanation and recital of full duplex vs half
duplex is a duplication of what has been already offered.

>If you want to run full duplex, you have to have some way to "see" the
>received signal in the face of a much larger transmit signal. Since
>you're transmitting, you've got a copy of the transmit signal, so it's
>really a matter of figuring out what the transfer function is from
>transmitter to (self)receiver. If the external environment were fixed,

And there is the nut of contention. Software will have to accommodate
to variation in environment and throughput suffers. This is old
stuff. The magic of computation still admits of cost galore. More
money for poor transfer doesn't add any sparkle to market
possibilities.

73's
Richard Clark, KB7QHC

435. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 05:14:34 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ikfavrrtc1@news.eternal-september.org>
Source record: 5586

On 2/27/2011 11:03 PM, Richard Clark wrote:
> On Sat, 26 Feb 2011 07:30:00 -0800 (PST), Wimpie<wimabctel@tetech.nl>
> wrote:
>
> Hi Wimpie,
>
>> This may
>> require another approach then you should use in a professional
>> environment. If you prefer that, Edaboard.com (just an example) is a
>> more suitable place.
>>
>> Now the result is a professional reaction of Norbert:
>
> Curious combination of conflicting sentiments, there. What is
> suitable, and how should we recognize it?
>
>> Radiation resistance (no coupling with other objects) will be about 1
>> mOhm.
>
> There are many source for computation, I chose one that closely agrees
> with several at hand. Perhaps I made an entry error, so I will take
> the opportunity to examine that possibility here:
> Rr = 80 ï¿½ piï¿½ ï¿½ (dl/lambda)ï¿½
> 80 ï¿½ 9.87 ï¿½ (2/80)ï¿½
> 790 ï¿½ (0.025)ï¿½
> 790 ï¿½ 0.0006
> 0.49 Ohm
>
> Of course, the possibility of mis-entry remains, and cross checking is
> helpful given an in dependant validation. If I examine my text
> further it uses as an example a smaller loop at a lower frequency
> dl = 1m
> F = 1MHz
> (lambda = 300)
> resulting in
> Rr = 0.0084 Ohm
> which is roughly 10 times your computed radiation resistance for a
> larger loop at a smaller wavelength.
>
> Now, having said that, and examining my text for further possibilities
> of error, I find that, yes, I made an error. My computation was based
> for an electric dipole, not a loop. Let us examine the Rr for a loop
> from the equation from the same source:

> Rr = 320 ï¿½ pi^6 ï¿½ (r/Lambda)^4
> 320 ï¿½ 961 ï¿½ (1/80)^4
> 307,645 ï¿½ 2.44^-8
> 0.0075 Ohm
> This, too, is very different from your calculation, but certainly that
> error is eclipsed by my own first reckoning. However, what does this
> say about efficiency based upon the original design (but computed for
> another)?
>
> However, I did first ask Norbert for the equation used and the
> parameters entered. Testing those results did not appear to be
> appealing in the face of contradicting testimonial. It should come as
> no surprise that many testimonials are tested here. Testimonials
> stand or fall in such tests, and those tests are retested (as has
> given rise to this and your response).
>
> Curiously we entered into this with how the loop has superior
> qualities over the standard dipole, and then the same loop is cited as
> being very inefficient. How such contradictions are held within the
> space of a short thread is certainly a denial of engineering
> professionalism, but denial is not the standard of merit that is
> typically lauded in this forum. A hearty defense of wounded ego
> raises suspicion even further.
>
> One consequence of that demurral brings us to a rather remarkable
> insight in comparing the radiation resistance of the electric dipole
> to the loop within the same spread of the loop (and in certainly a
> smaller volume of space). The electric dipole enjoys 60 times more
> radiation resistance that certainly impacts efficiency to the same
> degree. This, of course, presumes no further errors in computation or
> application.
>
> 73's
> Richard Clark, KB7QHC

Wimpie is right, Richard.

Please go back to your laboratory and speak to someone who understands
your dumb-ass dialect. Also, please don't discourage those who are
trying to contribute their experiences here. Try to be positive for a
change.

John

436. Re: A &#65533; λ Ground Plane for 70 cm

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 06:54:58 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <u1hmm654r9njg9ik2en21hn79kr5lpg690@4ax.com>
Source record: 5587

On Sun, 27 Feb 2011 16:21:13 +0000, vu2nan
<vu2nan.7b03b99@radiobanter.com> wrote:

>http://tinyurl.com/6zu89tg

"Four lengths of the brazing rod are cut to size (length in inches =
2808/f MHz), with a little extra for soldering into the TNC connector
flange mounting holes. "

How much is "a little extra"?
Is that the cut length or length through the holes?
If not, length measured from where on the TNC connector?
Is the driven element the same length as the ground plane elements?
Hint: They're usually not the same length. For example:
<http://kj4pwp.com/projects/Ground_Plane.asp>
<http://www.arrl.org/files/file/Technology/tis/info/pdf/ab18-16.pdf>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

437. Low-cost λ Dipole for HF QRP rigs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 08:10:57 UTC
From: vu2nan <vu2nan.7b138b8@radiobanter.com>
Message-ID: <vu2nan.7b138b8@radiobanter.com>
Source record: 5589

It's the antenna I used with my pye tank coupled 10W vacuum tube rig and
also with my link coupled 1.5W solid state rig.

http://tinyurl.com/4jqfall

73

Nandu.

--
vu2nan

438. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 09:52:48 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d6b7078$0$2456$65785112@news.neostrada.pl>
Source record: 5588

"Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:f911e6f9-2991-49ad-98c0-3e999dc34591@d12g2000prj.googlegroups.com...
On Feb 26, 12:21 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> So we also can say that aether
> consists of ordinary particles.

>It depends upon how one defines "ordinary". The structure of free
space has existed since the big bang but man has only recently
discovered the structure and is still somewhat ignorant of its
configuration and characteristics. There is some evidence that the
structure of space in which ordinary non-dark matter and non-dark
energy exists, is made up of dark matter and dark energy.

I prefer this: "It seems to be a natural consequence of our points of view
to assume that
the whole of space is filled with electrons and flying electric ions of all
kinds. We have assumed that each stellar system in evolutions throws off
electric corpuscles into space. It does not seem unreasonable therefore to
think that the greater part of the material masses in the universe is found,
not in the solar [sic] systems or nebulae, but in 'empty' space" (Birkeland
1913).
Thorndike (1930) noted that "it could scarcely have been believed that the
enormous gaps between the stars are completely void. Terrestrial aurorae are
not improbably excited by charged particles from the Sun emitted by the Sun.
If the millions of other stars are also ejecting ions, as is undoubtedly
true, no absolute vacuum can exist within the galaxy."

A loop antenna' is a radio antenna consisting of a loop of wire or other
conductor with its ends connected to a two-wire transmission line. They have
a radiation pattern similar to a dipole antenna"

>> I do not understand.

>A loop, like a dipole, is a standing wave antenna with a
characteristic impedance in the few hundred ohms, e.g. 600 ohms. The
reflections on a standing wave antenna have to originate from an
impedance discontinuity. The feedpoint impedance of a standing wave
antenna is Zfp = (Vfor + Vref)/(Ifor + Iref) where phasor math is
used. Let's assume that the feedpoint impedance is 100+j0 ohms and the
antenna is being fed with Z0=100 ohm feedline. There are no
reflections on the feedline which means a Z0-match to 100 ohms exists
at the antenna feedpoint. Assume the characteristic impedance of the
antenna wire over ground is 600 ohms. The 600 ohm to 100 ohm impedance
discontinuity at the feedpoint creates a reflection coefficient of

0.7. That's where the reflections on the standing wave loop antenna
are coming from. One reason the feedpoint of a resonant loop is higher
than for a 1/2WL dipole is that the reflection coefficient for the
loop is 0.7 while the reflection coefficient for a dipole is obviously
1.0 at the ends of the dipole.

>The concept may be easier to understand using a rhombic example. A
terminated rhombic is terminated in the characteristic impedance of
the antenna wire above ground, e.g. 600 ohms, which eliminates
reflections on the antenna and turns it into a traveling wave antenna
where the feedpoint impedance of the antenna is equal to the
characteristic impedance of the antenna over a wide frequency range,
i.e. Zfp = Vfor/Ifor, independent of frequency.

>Removing the termination turns the rhombic antenna into a standing
wave antenna and the feedpoint impedance becomes Zfp = (Vfor + Vref)/
(Ifor + Iref), i.e. the feedpoint impedance is frequency dependent
like other standing wave antennas.

See: http://paws.kettering.edu/~drussell/Phys302/09.html

"Electromagnetic pulse in a coaxial cable reflects from a short circuit with
the opposite polarity (upside down)"

A loop is like a short circuit. What do a Electromagnetic pulse in a loop?
It simply travel trough the loop and looks like the "reflected with the
opposite polarity ". Why am I wrong and D. Russell is right?
S*
--

439. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 12:47:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4beded17-f5d8-420f-b817-6a090b5f9171@p24g2000vbl.googlegroups.com>
Source record: 5590

On Feb 28, 3:52 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> A loop is like a short circuit. What do a Electromagnetic pulse in a loop?
> It simply travel trough the loop and looks like the "reflected with the
> opposite polarity ". Why am I wrong and D. Russell is right?

What you are missing is that the loop is an antenna, not a
transmission line. On a transmission line, the currents are
differential, i.e. 180 degrees out of phase and a short-circuit is
possible. At the antenna feedpoint the left differential current takes
a 90 degree turn to the left. The right differential current takes a
90 degree turn to the right. *That puts the antenna currents in
phase*, i.e. in common-mode, so a short circuit on an antenna 40 feet
in the air is not possible. The fields that are 180 degrees out of
phase no longer cancel because of the physical distance between them.

From the feedpoint of the antenna, there is no such thing as waves
launched in opposite directions on the wire *at the same time*. What
you are missing is there is no short-circuit half way around a loop
because there is no impedance discontinuity at that point. Forward
waves continue traveling forward and reflected waves continue to
travel backwards at that point because there is no impedance
discontinuity at that point. It takes an impedance discontinuity to
cause a reflection. Assuming a circular horizontal loop (for the sake
of conceptual simplicity) the only impedance discontinuity is at the
feedpoint.
--
73, Cecil, w5dxp.com

440. Re: A &#65533; λ Ground Plane for 70 cm

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 13:39:49 UTC
From: vu2nan <vu2nan.7b18d18@radiobanter.com>
Message-ID: <vu2nan.7b18d18@radiobanter.com>
Source record: 5591

JIMMIE;734470 Wrote:
> On Feb 27, 11:21*am, vu2nan vu2nan.7b03...@radiobanter.com wrote:-
> Please check out at:
>
> http://tinyurl.com/6zu89tg
>
> 73
>
> Nandu
>
> --
> vu2nan-
>
> I built one of those about 20 years ago to be able to hit the local
> repeaters, coverage was a little disappointing. going to a 5/8ths with
> 5/8ths radials made a noticeable difference and was nearly as easy to
> fabricate. The base of it with radials still adorns my chimney.
>
> Jimmie

Hi OM Jimmie,

I fully agree with you on the improved performance of the 5/8 λ GP.
But, for a start, it's easier to homebrew the &#65533; λ without the 'coil
hurdle'!

73

Nandu.

--
vu2nan

441. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 19:53:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mgtnm65sb660na5440of0q6pep3ehcv2u1@4ax.com>
Source record: 5592

On Sun, 27 Feb 2011 23:14:34 -0600, John - KD5YI <sophi.2@invalid.org>
wrote:

>Wimpie is right, Richard.

I presume Wimpie can speak for himself. As he offered musings that
were done on the back of a handy envelope, there is every chance he is
not right. I offered a similar chance that I was not right either,
but I offered complete (two in fact) equations that no one has
disputed, and none have faulted for computation. I admitted a
misapplication of one - which also passed without comment.

Considering Wimpie's work was not done for the antenna under
consideration (the size of his being much smaller where radiation
resistance varies by the FOURTH POWER of size) - what does "right"
mean?

73's
Richard Clark, KB7QHC

442. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 20:58:12 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7d01097c-5107-4811-afd3-55e47334e2e6@v31g2000vbs.googlegroups.com>
Source record: 5593

On 28 feb, 20:53, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 27 Feb 2011 23:14:34 -0600, John - KD5YI <soph...@invalid.org>
> wrote:
>
> >Wimpie is right, Richard.
>
> I presume Wimpie can speak for himself. As he offered musings that
> were done on the back of a handy envelope, there is every chance he is
> not right. I offered a similar chance that I was not right either,
> but I offered complete (two in fact) equations that no one has
> disputed, and none have faulted for computation. I admitted a
> misapplication of one - which also passed without comment.
>
> Considering Wimpie's work was not done for the antenna under
> consideration (the size of his being much smaller where radiation
> resistance varies by the FOURTH POWER of size) - what does "right"
> mean?
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

Your formulas can be disputed:

When using (from http://www.ece.msstate.edu/~donohoe/ece4990notes5.pdf):

Rr_loop = 320*(pi)^4*A^2/lambda^4

for f = 3.6 MHz, Dloop = 1.27m (so A = 1.27 m^2),

Rr_loop = 0.001 mOhm.

This result agrees the number in my previous calculation (for the same
situation).

From the same source, but for a dipole of 1.27m with large end-
plates,

Rr_dipole = 80*(pi)^2*le^2/lambda^2 = 0.18
Rr_dipole = 0.045 Ohm (without large end-plates).

This is roughly a factor 45 or 180 more (for the dipole).

Maybe somebody can confirm the above calculations.

The actual efficiency depends on the required (space consuming) reactive component to cancel the capacitive (dipole) or inductive (loop) behavior.

The advantage of the loop (especially for reception) is that you need a variable capacitor instead of a variable loop, and matching / balun function can be made easily. He also mentioned the vertical radiation component (NVIS operation) together with the nulls in the horizontal plane.

Regarding claims, Norbert didn't make claims about the high efficiency. Please read his conclusion that starts with "despite the low efficiency of 3%….". His stated 3% reasonably agrees with my 3% (though you think that the calculation may be wrong). The claim with regards to performance comparable to a half wave or vertical antenna is for higher frequencies (where the loop's efficiency increases significantly).

Of course I have serious doubts about the conclusions regarding general noise cancelling properties, but the conclusions can be right for that special RF-environment. Whether they apply for another situation, can be food for the radio amateur experimenter (or professional?).

With kind regards,

Wim
PA3DJS
www.tetech.nl

443. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 21:00:57 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <478e8846-1ee3-4f9f-8d75-fcbb9f0f5e89@by6g2000vbb.googlegroups.com>
Source record: 5594

The link should be:
http://www.ece.msstate.edu/~donohoe/ece4990notes5.pdf

Wim
PA3DJS
www.tetech.nl

444. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 21:36:27 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ikh4gv$hg8$1@news.eternal-september.org>
Source record: 5595

On 2/28/2011 1:53 PM, Richard Clark wrote:
> On Sun, 27 Feb 2011 23:14:34 -0600, John - KD5YI<sophi.2@invalid.org>
> wrote:
>
>> Wimpie is right, Richard.
>
> I presume Wimpie can speak for himself. As he offered musings that
> were done on the back of a handy envelope, there is every chance he is
> not right. I offered a similar chance that I was not right either,
> but I offered complete (two in fact) equations that no one has
> disputed, and none have faulted for computation. I admitted a
> misapplication of one - which also passed without comment.
>
> Considering Wimpie's work was not done for the antenna under
> consideration (the size of his being much smaller where radiation
> resistance varies by the FOURTH POWER of size) - what does "right"
> mean?
>
> 73's
> Richard Clark, KB7QHC

I didn't mean Wimpie was right about his technical response. I meant he
was right about a part of his message which you cut:

"I agree with you that several statements on Norbert's site will not
hold when scientifically reviewed. However I think the way you
respond will likely not result in better statements."

"As the name of the newsgroup indicates; this is a radio amateur group
and Norbert site starts with "Dutch amateur radio station". This may
require another approach then you should use in a professional
environment. If you prefer that, Edaboard.com (just an example) is a
more suitable place."

John

445. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-02-28 22:13:29 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b008d3d4-78de-44b5-8bbc-1bb74c27c05c@s3g2000vbf.googlegroups.com>
Source record: 5596

On 28 feb, 20:53, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 27 Feb 2011 23:14:34 -0600, John - KD5YI <soph...@invalid.org>
> wrote:
>
> >Wimpie is right, Richard.
>
> I presume Wimpie can speak for himself. As he offered musings that
> were done on the back of a handy envelope, there is every chance he is
> not right. I offered a similar chance that I was not right either,
> but I offered complete (two in fact) equations that no one has
> disputed, and none have faulted for computation. I admitted a
> misapplication of one - which also passed without comment.
>
> Considering Wimpie's work was not done for the antenna under
> consideration (the size of his being much smaller where radiation
> resistance varies by the FOURTH POWER of size) - what does "right"
> mean?
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

you used r = 1m (as you have r in your formulas), that is D = 2m,
6.28m circumference.

I used D = 1.27m (4m perimeter), that is r = 0.635 m.

Quote from Norbert's site:
"When a magnetic loop antenna is used for 3.5 MHz with a perimeter of
4 meter (13.3 foot) , it has an efficiency of approximately 3%."

Maybe this helps you to explain the difference between your and my
result,

Wim
PA3DJS
www.tetech.nl
Don't forget to remove abc in case of PM.

446. Re: No comment three antennas - duplex

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 01:09:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ikhgvm$qi4$1@news.jpl.nasa.gov>
Source record: 5598

Richard Clark wrote:
> On Thu, 24 Feb 2011 17:06:39 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> No.. the original article was talking about low power 802.11/802.16
>> systems (which radiate less than a watt).. At that power level, the fact
>> that a suitably good linear amplifier is going to consume a fair amount
>> of power (20% efficiency would be doing well) is insignificant next to
>> the power consumed by the digital processing necessary to implement the
>> cancellation algorithm.
>
> As I said, how that finds its way into antenna system consideration
> still remains a mystery.

because the referenced patent is talking about a *system* not just an
antenna. So the *system* implementation is relevant..

447. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 01:24:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <uvhom6d8jei8iqvu1ked8uf9o5qci26d89@4ax.com>
Source record: 5597

On Mon, 28 Feb 2011 15:36:27 -0600, John - KD5YI <sophi.2@invalid.org>
wrote:

>I didn't mean Wimpie was right about his technical response. I meant he
>was right about a part of his message which you cut:

I selectively quote to make the response specific to the point being
responded to (like I am right now). It saves room, is not ambiguous,
and serves the technical community by confining discussion to
technical matters.

73's
Richard Clark, KB7QHC

448. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 02:25:00 UTC
From: ka7niq <ka7niq.7b235da@radiobanter.com>
Message-ID: <ka7niq.7b235da@radiobanter.com>
Source record: 5601

'Wimpie[_2_ Wrote:
> ;734551']On 28 feb, 20:53, Richard Clark kb7...@comcast.net wrote:-
> On Sun, 27 Feb 2011 23:14:34 -0600, John - KD5YI soph...@invalid.org
> wrote:
> -
> Wimpie is right, Richard.-
>
> I presume Wimpie can speak for himself. *As he offered musings that
> were done on the back of a handy envelope, there is every chance he is
> not right. *I offered a similar chance that I was not right either,
> but I offered complete (two in fact) equations that no one has
> disputed, and none have faulted for computation. *I admitted a
> misapplication of one - which also passed without comment.
>
> Considering Wimpie's work was not done for the antenna under
> consideration (the size of his being much smaller where radiation
> resistance varies by the FOURTH POWER of size) - what does "right"
> mean?
>
> 73's
> Richard Clark, KB7QHC-
>
> Hello Richard,
>
> you used r = 1m (as you have r in your formulas), that is D = 2m,
> 6.28m circumference.
>
> I used D = 1.27m (4m perimeter), that is r = 0.635 m.
>
> Quote from Norbert's site:
> "When a magnetic loop antenna is used for 3.5 MHz with a perimeter of
> 4 meter (13.3 foot) , it has an efficiency of approximately 3%."
>
> Maybe this helps you to explain the difference between your and my
> result,
>
>
> Wim
> PA3DJS
> www.tetech.nl
> Don't forget to remove abc in case of PM.

This has been a good thread, I have little room for an antenna, a mag loop may be just the ticket for my small Tampa QTH ?

--
ka7niq

449. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 02:40:21 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ikhman$8l2$2@news.eternal-september.org>
Source record: 5599

On 2/28/2011 7:24 PM, Richard Clark wrote:
> On Mon, 28 Feb 2011 15:36:27 -0600, John - KD5YI<sophi.2@invalid.org>
> wrote:
>
>> I didn't mean Wimpie was right about his technical response. I meant he
>> was right about a part of his message which you cut:
>
> I selectively quote to make the response specific to the point being
> responded to (like I am right now). It saves room, is not ambiguous,
> and serves the technical community by confining discussion to
> technical matters.
>
> 73's
> Richard Clark, KB7QHC

Then I'll just have to put the "point" back in

<Quote Wim>
I agree with you that several statements on Norbert's site will not
hold when scientifically reviewed. However I think the way you
respond will likely not result in better statements.

As the name of the newsgroup indicates; this is a radio amateur group
and Norbert site starts with "Dutch amateur radio station". This may
require another approach then you should use in a professional
environment. If you prefer that, Edaboard.com (just an example) is a
more suitable place.
</Quote>

450. Re: A &#65533; λ Ground Plane for 70 cm

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 03:47:41 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <nsqom6d8qe47fqt748nqrn4qlu81abc6e2@4ax.com>
Source record: 5600

On Sun, 27 Feb 2011 22:54:58 -0800, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>On Sun, 27 Feb 2011 16:21:13 +0000, vu2nan
><vu2nan.7b03b99@radiobanter.com> wrote:
>
>>http://tinyurl.com/6zu89tg

Ummm... while you're working on my comments, you might also want to
make some changes to way you handle images. When you click on the
thumbnail image on most pages, all you get is an identical image with
exactly the same thumbnail size photo. In general, these are too
small to see in detail and I was expecting a considerably larger
image.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

451. Re: A &#65533; λ Ground Plane for 70 cm

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 06:05:59 UTC
From: vu2nan <vu2nan.7b28a38@radiobanter.com>
Message-ID: <vu2nan.7b28a38@radiobanter.com>
Source record: 5605

'Jeff Liebermann[_2_ Wrote:
> ;734602']On Sun, 27 Feb 2011 22:54:58 -0800, Jeff Liebermann
> jeffl@cruzio.com
> wrote:
> -
> On Sun, 27 Feb 2011 16:21:13 +0000, vu2nan
> vu2nan.7b03b99@radiobanter.com wrote:
> -
> http://tinyurl.com/6zu89tg--
>
> Ummm... while you're working on my comments, you might also want to
> make some changes to way you handle images. When you click on the
> thumbnail image on most pages, all you get is an identical image with
> exactly the same thumbnail size photo. In general, these are too
> small to see in detail and I was expecting a considerably larger
> image.
>
> --
> # Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
> # 831-336-2558
> # http://802.11junk.com jeffl@cruzio.com
> # http://www.LearnByDestroying.com AE6KS

Hi OM Jeff,

It's because I forgot to save the original images in the course of
editing some of them.

So sorry for the inconvenience.

Many thanks.

73

Nandu.

--
vu2nan

452. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 07:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1298962801@panix.com>
Source record: 5602
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

453. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 08:50:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dniom65iu0v3g1tt6mhjdbn0r4a8m7eedl@4ax.com>
Source record: 5603

On Mon, 28 Feb 2011 14:13:29 -0800 (PST), Wimpie <wimabctel@tetech.nl>
wrote:

>you used r = 1m (as you have r in your formulas), that is D = 2m,
>6.28m circumference.

It is the specified diameter/radius of the 80M antenna at the link of
the antenna manufacturer. I stated that quite clearly. I choose to
go to the source rather than rely on possible transcription errors in
amateur postings.

>I used D = 1.27m (4m perimeter), that is r = 0.635 m.

That antenna does not exist.

>Quote from Norbert's site:
>"When a magnetic loop antenna is used for 3.5 MHz with a perimeter of
>4 meter (13.3 foot) , it has an efficiency of approximately 3%."

There is no Ciro Mazzoni antenna with that dimension.

I specifically asked if this statement was for the MIDI loop antenna
with a 2 meter diameter (and is designed for 80M operation). To this
point no one has affirmed or denied this my natural selection from the
manufacturer. The page quite clearly reveals three photos of the
distinctive design. The Mazzoni antennas also come in distinctive 1m,
2m, 4m integral sizes. There is no 1.27m diameter tuned loop
offering.

>Maybe this helps you to explain the difference between your and my
>result,

The original page (2) contains errors or misattribution (same thing),
that is why I am careful to trim away the textual noise and restate
what I perceive to be the model under investigation.

73's
Richard Clark, KB7QHC

454. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 09:38:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aucpm65vpbcit6i2hiu5pmntsprgrf9ar3@4ax.com>
Source record: 5604

On Tue, 1 Mar 2011 02:25:00 +0000, ka7niq
<ka7niq.7b235da@radiobanter.com> wrote:

>This has been a good thread, I have little room for an antenna, a mag
>loop may be just the ticket for my small Tampa QTH ?

Hi OM,

Well, as you can imagine (barring the numerous errors and moral judgments), it all depends upon the band you want to operate - with the 40M and higher frequencies quite well served.

A lot of myth surrounds what are called "magnetic loops" and this thread has corralled some of them - including from Norbert as his page which forces the argument that fairly agrees that below 40M performance dives. However, through sloppy bookkeeping, the Ciro Mazzoni line is not one I would walk away from for stated "inefficiencies."

The principle consideration is the ratio between radiation resistance (power that is expressed into making contacts) and Ohmic loss (bulk metal conductivity power that is expressed into making heat). Wimpie's choice of 20mm diameter stock (how that arrived in the mix is a mystery) compares poorly with the Ciro Mazzoni 50mm tubing for its smallest design.

The 80M design from the vendor uses 75mm stock for good reason and this should be a selection guide for your application. Their second 80M design uses 140mm stock! Pushing this further with conductance now nailed down, you want a large loop because the radiation resistance varies by the fourth power of dimension. That is to say, if you double the loop radius, you obtain 16 times the radiation resistance. Small changes in loop radius can quickly escalate or emasculate efficiency. Radiation resistance is the beneficial characteristic of how we manage to couple a signal out into space and which is typically thought of as being 50 Ohms (although this is rarely the actual value that more often varies between 35 and 70 Ohms for simple wire antennas of conventional length).

As you can see from these resistance figures, the difference between a radiation resistance in the thousandths of an Ohm, and typical values in the tens of Ohms is a hallmark for caution. When paired with metal resistance in the Ohms (something that ordinarily only comes with using wire-wrap wire for long runs), you want to boost radiation resistance as high as possible. When paired with metal resistance

that is in the thousandths of Ohms, there is every chance you are looking at 50% efficiency for 1 meter diameter loops.

Bigger radius comes with its own problem, however. It limits the high band of operation as these designs are optimized for being a small portion of wavelength. Observe the various design options from Ciro Mazzoni, and you will observe they are specified over only two octaves for any particular design. That should give you a clue if you want to homebrew your own, because you will encounter the same limitations of coverage regardless of construction method.

So, this returns us to the first statement above: it all depends on which band(s) you want to work. It further depends upon your pain threshold for poor efficiency if you choose to push beyond the coverage limits. Professionals describe this in terms of a cost/benefit ratio. If we restrict discussion to non-professional qualitative expressions of benefit: super, great, fantastic, maximum and peg escalating dollar amounts to each with corresponding breathless emphasis - then there are many deals for sale on those terms for the gullible.

73's
Richard Clark, KB7QHC

455. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 12:49:01 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <75a42de3-4f8f-4b33-8cc4-252d37dd9de7@b8g2000vbi.googlegroups.com>
Source record: 5606

On 1 mar, 03:25, ka7niq <ka7niq.7b23...@radiobanter.com> wrote:
> 'Wimpie[_2_ Wrote:
>
>
>
> > ;734551']On 28 feb, 20:53, Richard Clark kb7...@comcast.net wrote:-
> > On Sun, 27 Feb 2011 23:14:34 -0600, John - KD5YI soph...@invalid.org
> > wrote:
> > -
> > Wimpie is right, Richard.-
>
> > I presume Wimpie can speak for himself. *As he offered musings that
> > were done on the back of a handy envelope, there is every chance he is
> > not right. *I offered a similar chance that I was not right either,
> > but I offered complete (two in fact) equations that no one has
> > disputed, and none have faulted for computation. *I admitted a
> > misapplication of one - which also passed without comment.
>
> > Considering Wimpie's work was not done for the antenna under
> > consideration (the size of his being much smaller where radiation
> > resistance varies by the FOURTH POWER of size) - what does "right"
> > mean?
>
> > 73's
> > Richard Clark, KB7QHC-
>
> > Hello Richard,
>
> > you used r = 1m (as you have r in your formulas), that is D = 2m,
> > 6.28m circumference.
>
> > I used D = 1.27m (4m perimeter), that is r = 0.635 m.
>
> > Quote from Norbert's site:
> > "When a magnetic loop antenna is used for 3.5 MHz with a perimeter of
> > 4 meter (13.3 foot) , it has an efficiency of approximately 3%."
>
> > Maybe this helps you to explain the difference between your and my
> > result,
>
> > Wim
> > PA3DJS
> >www.tetech.nl

> > Don't forget to remove abc in case of PM.
>
> This has been a good thread, I have little room for an antenna, a mag
> loop may be just the ticket for my small Tampa QTH ?
>
> --
> ka7niq

Hello Chris,

Which antenna will fit your needs depends on many factors (tuning range, indoor/outdoor, aesthetics, local regulations, your experience/ preference, available volume, house construction, buy or homebrew, available materials, local or DX use, etc). So I can't judge whether a loop is good solution in your situation.

In addition, "the" best antenna for the transmitting case will very likely not be the best one for the reception case.

Best regards,

Wim
PA3DJS
www.tetech.nl

456. Re: Loop fed yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-01 15:29:37 UTC
From: ka7niq <ka7niq.7b2de98@radiobanter.com>
Message-ID: <ka7niq.7b2de98@radiobanter.com>
Source record: 5607

Art Unwin;732715 Wrote:
> I did something like that over a decade ago under
> A constant impedance antenna system
> patent application.
> What I did was to capacity couple a dipole arrangement
> which I placed very close to a antenna array to get a
> constant impedance. The final set up comprises then of two occillators.
> This coupling method was picked up by a lot of people
> because of its attribute of removing noise via
> capacitive coupling. Basically the connecting impedance
> point travelled along the length of the feed dipole
> which also provided a broader bandwidth with a stable
> impedance.

Pete Rhodes K4EWG did log periodic with yagi reflectors and directors
called a Log Yag.

--
ka7niq

457. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 12:58:08 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <iklet0omc1@ra.nrl.navy.mil>
Source record: 5608

On 02/23/2011 10:00 AM, RadioWaves wrote:
> Today I have put my homepage online with information about the Magnetic Loop
> Antenna.
>
> http://www.qsl.net/pa7nr/
>
> PA7NR
>
>
Hmmm. A "magnetic" loop antenna. Must be some other types of loop
antennas as well. Maybe there are also "electric" loop antennas.

Guess they left something out of all those antenna textbooks I have ;-)
Sincerely, and 73s from N4GGO,

--
J. B. Wood e-mail: arl_123234@hotmail.com

458. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 13:40:23 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <98f3357d-6909-44c7-bc12-66c2778be624@p3g2000vbv.googlegroups.com>
Source record: 5609

On 2 mar, 13:58, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 02/23/2011 10:00 AM, RadioWaves wrote:> Today I have put my homepage online with information about the Magnetic Loop
> > Antenna.
>
> >http://www.qsl.net/pa7nr/
>
> > PA7NR
>
> Hmmm. A "magnetic" loop antenna. Must be some other types of loop
> antennas as well. Maybe there are also "electric" loop antennas.
>
> Guess they left something out of all those antenna textbooks I have ;-)
> Sincerely, and 73s from N4GGO,
>
> --
> J. B. Wood   e-mail: arl_123...@hotmail.com

Hello John,

When you cut the loop at two opposite positions, yes, you can make
your "electric" loop.

It will generate lots of E-field, you may need another coil for
matching, and it is probably less efficient then a short straight
dipole with massive capacitive disks to get larger I*delta(le)
product.

Best regards,

Wim
PA3DJS
www.tetech.nl
In case of PM, please remove abc first.

459. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 17:14:43 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <ikltu3saq1@ra.nrl.navy.mil>
Source record: 5610

On 3/2/2011 8:40 AM, Wimpie wrote:
> On 2 mar, 13:58, "J.B. Wood"<john.w...@nrl.navy.mil> wrote:
>> On 02/23/2011 10:00 AM, RadioWaves wrote:> Today I have put my homepage online with information about the Magnetic Loop
>>> Antenna.
>>
>>> http://www.qsl.net/pa7nr/
>>
>>> PA7NR
>>
>> Hmmm. A "magnetic" loop antenna. Must be some other types of loop
>> antennas as well. Maybe there are also "electric" loop antennas.
>>
>> Guess they left something out of all those antenna textbooks I have ;-)
>> Sincerely, and 73s from N4GGO,
>>
>> --
>> J. B. Wood e-mail: arl_123...@hotmail.com
>
> Hello John,
>
> When you cut the loop at two opposite positions, yes, you can make
> your "electric" loop.
>
> It will generate lots of E-field, you may need another coil for
> matching, and it is probably less efficient then a short straight
> dipole with massive capacitive disks to get larger I*delta(le)
> product.
>
> Best regards,
>
>
> Wim
> PA3DJS
> www.tetech.nl
> In case of PM, please remove abc first.

Hello, and the not-so-subtle point is that there aren't magnetic, electric, or any other such "types" of loop antennas. There are just loop antennas that can further be described as shielded/unshielded, balanced/unbalanced, electrically small or large. Just like we don't transmit (propagate) electric (E) or magnetic (H) fields by themselves.

The purpose of an antenna is to radiate and/or intercept an electromagnetic field. By definition energy radiated by a transmitting antenna is not temporarily stored in the antenna's local electric or magnetic field. It's been released into free space subject to interception by a receiving antenna(s) or any other parasitic structures. The receiving antenna transfers part the intercepted energy to the load (receiver and other dissipative losses) and scatters the rest back into free space.

By contrast, a transformer, for example, is a "magnetic" device that is intended to transfer energy by a localized means (induction) other than the propagation/interception of electromagnetic radiation.

To further confuse the issue, a conductor in the near (reactive) field of a transmitting antenna will have current induced in it by the antenna's local electric and/or magnetic fields. However, that's not the usual purpose for which we design antennas. An exception might be the immoboliser (PATS) system used in late-model motor vehicles that incorporates a ring antenna embedded in the steering column that is closely coupled at RF frequencies to the transponder chip and loop antenna embedded in the vehicle ignition key. So is it a transmit-receive antenna configuration or a primary coil-secondary coil transformer configuration? Given the proximity of the inserted key to the steering column I would guess the latter. Sincerely,

--
J. B. Wood e-mail: arl_123234@hotmail.com

460. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 17:40:15 UTC
From: ka7niq <ka7niq.7b48478@radiobanter.com>
Message-ID: <ka7niq.7b48478@radiobanter.com>
Source record: 5614

Richard Clark;734631 Wrote:
> On Tue, 1 Mar 2011 02:25:00 +0000, ka7niq
> ka7niq.7b235da@radiobanter.com wrote:
> -
> This has been a good thread, I have little room for an antenna, a mag
> loop may be just the ticket for my small Tampa QTH ?-
>
> Hi OM,
>
> Well, as you can imagine (barring the numerous errors and moral
> judgments), it all depends upon the band you want to operate - with
> the 40M and higher frequencies quite well served.
>
> A lot of myth surrounds what are called "magnetic loops" and this
> thread has corralled some of them - including from Norbert as his page
> which forces the argument that fairly agrees that below 40M
> performance dives. However, through sloppy bookkeeping, the Ciro
> Mazzoni line is not one I would walk away from for stated
> "inefficiencies."
>
> The principle consideration is the ratio between radiation resistance
> (power that is expressed into making contacts) and Ohmic loss (bulk
> metal conductivity power that is expressed into making heat). Wimpie's
> choice of 20mm diameter stock (how that arrived in the mix is a
> mystery) compares poorly with the Ciro Mazzoni 50mm tubing for its
> smallest design.
>
> The 80M design from the vendor uses 75mm stock for good reason and
> this should be a selection guide for your application. Their second
> 80M design uses 140mm stock! Pushing this further with conductance
> now nailed down, you want a large loop because the radiation
> resistance varies by the fourth power of dimension. That is to say,
> if you double the loop radius, you obtain 16 times the radiation
> resistance. Small changes in loop radius can quickly escalate or
> emasculate efficiency. Radiation resistance is the beneficial
> characteristic of how we manage to couple a signal out into space and
> which is typically thought of as being 50 Ohms (although this is
> rarely the actual value that more often varies between 35 and 70 Ohms
> for simple wire antennas of conventional length).
>
> As you can see from these resistance figures, the difference between a
> radiation resistance in the thousandths of an Ohm, and typical values
> in the tens of Ohms is a hallmark for caution. When paired with metal

> resistance in the Ohms (something that ordinarily only comes with
> using wire-wrap wire for long runs), you want to boost radiation
> resistance as high as possible. When paired with metal resistance
> that is in the thousandths of Ohms, there is every chance you are
> looking at 50% efficiency for 1 meter diameter loops.
>
> Bigger radius comes with its own problem, however. It limits the high
> band of operation as these designs are optimized for being a small
> portion of wavelength. Observe the various design options from Ciro
> Mazzoni, and you will observe they are specified over only two octaves
> for any particular design. That should give you a clue if you want to
> homebrew your own, because you will encounter the same limitations of
> coverage regardless of construction method.
>
> So, this returns us to the first statement above: it all depends on
> which band(s) you want to work. It further depends upon your pain
> threshold for poor efficiency if you choose to push beyond the
> coverage limits. Professionals describe this in terms of a
> cost/benefit ratio. If we restrict discussion to non-professional
> qualitative expressions of benefit: super, great, fantastic, maximum
> and peg escalating dollar amounts to each with corresponding
> breathless emphasis - then there are many deals for sale on those
> terms for the gullible.
>
> 73's
> Richard Clark, KB7QHC OK, IF you just wanted to buy a magnetic loop antenna vs build one,
what are the ones to look at that are for sale, and why ? AEA once made
one when I left Tampa and lived out west in Seattle. I live in a small,
non deed restricted house in Tampa with a flat membrane roof. I could
get a loop on my roof I suppose, if the installation looked clean.

--
ka7niq

461. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 19:39:24 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <ikm6dc$115$1@ra.nrl.navy.mil>
Source record: 5611

On 3/2/2011 12:14 PM, J.B. Wood wrote:
> On 3/2/2011 8:40 AM, Wimpie wrote:

>
> To further confuse the issue, a conductor in the near (reactive) field
> of a transmitting antenna will have current induced in it by the
> antenna's local electric and/or magnetic fields. However, that's not the
> usual purpose for which we design antennas.

Hello, all. I should also add that in stating the above I was only considering nearby conductors (towers, metal on buildings, etc) and wasn't including the local directors/reflectors that may be incorporated into an antenna to provide the desired radiation pattern characteristics. Sincerely,

--
J. B. Wood e-mail: arl_123234@hotmail.com

462. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 20:56:23 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cbfbec2c-a8d1-4a89-b2e4-3b4848b51f24@a5g2000vbs.googlegroups.com>
Source record: 5612

Hello John,

On 2 mar, 18:14, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 3/2/2011 8:40 AM, Wimpie wrote:
>
>
>
> > On 2 mar, 13:58, "J.B. Wood"<john.w...@nrl.navy.mil> wrote:
> >> On 02/23/2011 10:00 AM, RadioWaves wrote:> Today I have put my homepage online with information about the Magnetic Loop
> >>> Antenna.
>
> >>>http://www.qsl.net/pa7nr/
>
> >>> PA7NR
>
> >> Hmmm. A "magnetic" loop antenna. Must be some other types of loop
> >> antennas as well. Maybe there are also "electric" loop antennas.
>
> >> Guess they left something out of all those antenna textbooks I have ;-)
> >> Sincerely, and 73s from N4GGO,
>
> >> --
> >> J. B. Wood   e-mail: arl_123...@hotmail.com
>
> > Hello John,
>
> > When you cut the loop at two opposite positions, yes, you can make
> > your "electric" loop.
>
> > It will generate lots of E-field, you may need another coil for
> > matching, and it is probably less efficient then a short straight
> > dipole with massive capacitive disks to get larger I*delta(le)
> > product.
>
> > Best regards,
>
> > Wim
> > PA3DJS
> >www.tetech.nl
> > In case of PM, please remove abc first.
>
> Hello, and the not-so-subtle point is that there aren't magnetic,

> electric, or any other such "types" of loop antennas. There are just
> loop antennas that can further be described as shielded/unshielded,
> balanced/unbalanced, electrically small or large. Just like we don't
> transmit (propagate) electric (E) or magnetic (H) fields by themselves.
>
> The purpose of an antenna is to radiate and/or intercept an
> electromagnetic field. By definition energy radiated by a transmitting
> antenna is not temporarily stored in the antenna's local electric or
> magnetic field. It's been released into free space subject to
> interception by a receiving antenna(s) or any other parasitic
> structures. The receiving antenna transfers part the intercepted energy
> to the load (receiver and other dissipative losses) and scatters the
> rest back into free space.
>
> By contrast, a transformer, for example, is a "magnetic" device that is
> intended to transfer energy by a localized means (induction) other than
> the propagation/interception of electromagnetic radiation.

If in your opinion there do not exist antennas that generate a
dominant magnetic or electric field (in the near field), then you are
contradicting yourself, as you can't transfer energy with a magnetic
field or electric field only. So your transformer also involves
electric fields. Maybe you should look into the Poynting theorem.

> To further confuse the issue, a conductor in the near (reactive) field
> of a transmitting antenna will have current induced in it by the
> antenna's local electric and/or magnetic fields. However, that's not
> the usual purpose for which we design antennas. An exception might be
> the immoboliser (PATS) system used in late-model motor vehicles that
> incorporates a ring antenna embedded in the steering column that is
> closely coupled at RF frequencies to the transponder chip and loop
> antenna embedded in the vehicle ignition key. So is it a
> transmit-receive antenna configuration or a primary coil-secondary coil
> transformer configuration? Given the proximity of the inserted key to
> the steering column I would guess the latter. Sincerely,
>
> --
> J. B. Wood   e-mail: arl_123...@hotmail.com

When a noise source is about 5..10m away from an 3.6 MHz antenna, the
coupling of that noise source towards a "magnetic" loop antenna may be
different from the coupling towards an "electric" antenna, though
both antennas may produce the same far field radiation. This is not
from a textbook, but from experience (I am also working in power
electronics).

I fully agree with you on the far field statements, but when you live
in an apartment (where significant spurious emission from home
equipment are in the near field of your 3.6 MHz antenna), a so-called
magnetic loop antenna may behave different (w.r.t. a short "electric"
dipole). It can be worse or better. Many radio amateurs know this from

experiments, without knowing the EM theory behind it.

I have no problems when people talk about a "magnetic loop antenna". It shows me that they are discussing an antenna with a circumference < 0.2 lambda. When people talk about a "loop antenna", it can be anything.

Best regards,

Wim
PA3DJS
www.tetech.nl

463. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 22:10:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2uctm6142al6dg1td8phjl61ae7leq1mfp@4ax.com>
Source record: 5613

On Wed, 2 Mar 2011 12:56:23 -0800 (PST), Wimpie <wimabctel@tetech.nl>
wrote:

>When a noise source is about 5..10m away from an 3.6 MHz antenna, the
>coupling of that noise source towards a "magnetic" loop antenna may be
>different from the coupling towards an "electric" antenna, though
>both antennas may produce the same far field radiation. This is not
>from a textbook, but from experience (I am also working in power
>electronics).

Text books would enlarge that volume to one half to several
wavelengths for the "near field." The text books would further
clarify this with math (yes, I know, professional and academic
discussion in light of this being an amateur forum is anathema) and
define the difference with the terms Fresnel diffraction (near-field)
and Fraunhofer diffraction (far-field). The operative physical length
of the antenna becomes meaningful, but this is getting ahead of what I
call the "benchmark" method below.

To give the magnetic loop aficionados the benefit of this, all local
noise within 100 feet would be susceptible to interfering and it
wouldn't be nullable (which is a characteristic only observed in the
far-field) except by polarization which is very haphazard in the
near-field. I have never seen a magnetic loop mount with the
necessary degrees of freedom to employ this method of "nulling." As
such, the vaunted characteristic is elusive and thus becomes legendary
rather than fulfilled.

However, the term "near-field" is rather vague. The more appropriate
discussion is found in "reactive near field" and "radiative near
field." The discussion of loop coupling to magnetic (while ignoring
electric) fields would suggest "reactive near field." In this regard,
the 80M volume of reactive interference is still roughly 100 feet in
all directions. The "radiative near field" would encompass a volume
out to 80 meters (roughly 250 feet). In either case, apartment living
finds no panacea in loop antennas.

There is another, non-textual (at least to the casual reader),
benchmark that such issues are measured by the physical spread of the
antenna itself (this usually attends discussion of capture area to
many's frustration). Here, I am returning to the allusion above of
Fresnel diffraction (near-field) and Fraunhofer diffraction
(far-field). The math (non-techs, turn your eyes away) is as simple
as:

2ï¿½Dï¿½/lambda

Let's work some examples from the sublime to the ridiculous on 80M.

The traditional half-wave dipole antenna that exhibits the traditional
usage for distinguishing between near and far:
2ï¿½40ï¿½/80 = 40 meters
a smaller quarter-wave dipole antenna
2ï¿½20ï¿½/80 = 10 meters
a tenth wave dipole antenna
2ï¿½8ï¿½/80 = 1.6 meters
a fortieth wave dipole antenna
2ï¿½2ï¿½/80 = 10 centimeters

Let's see where discussion follows in this regard.

73's
Richard Clark, KB7QHC

464. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 23:29:55 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <a36f44d1-dde6-4112-b6c2-81683834cf19@k38g2000vbn.googlegroups.com>
Source record: 5615

Hello Richard,

On 2 mar, 23:10, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 2 Mar 2011 12:56:23 -0800 (PST), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >When a noise source is about 5..10m away from an 3.6 MHz antenna, the
> >coupling of that noise source towards a "magnetic" loop antenna may be
> >different from the coupling towards an "electric" antenna, though
> >both antennas may produce the same far field radiation. This is not
> >from a textbook, but from experience (I am also working in power
> >electronics).
>
> Text books would enlarge that volume to one half to several
> wavelengths for the "near field." The text books would further
> clarify this with math (yes, I know, professional and academic
> discussion in light of this being an amateur forum is anathema) and
> define the difference with the terms Fresnel diffraction (near-field)
> and Fraunhofer diffraction (far-field). The operative physical length
> of the antenna becomes meaningful, but this is getting ahead of what I
> call the "benchmark" method below.
>
> To give the magnetic loop aficionados the benefit of this, all local
> noise within 100 feet would be susceptible to interfering and it
> wouldn't be nullable (which is a characteristic only observed in the
> far-field) except by polarization which is very haphazard in the
> near-field. I have never seen a magnetic loop mount with the
> necessary degrees of freedom to employ this method of "nulling." As
> such, the vaunted characteristic is elusive and thus becomes legendary
> rather than fulfilled.
>
> However, the term "near-field" is rather vague. The more appropriate
> discussion is found in "reactive near field" and "radiative near
> field." The discussion of loop coupling to magnetic (while ignoring
> electric) fields would suggest "reactive near field." In this regard,
> the 80M volume of reactive interference is still roughly 100 feet in
> all directions. The "radiative near field" would encompass a volume
> out to 80 meters (roughly 250 feet). In either case, apartment living
> finds no panacea in loop antennas.
>
> There is another, non-textual (at least to the casual reader),
> benchmark that such issues are measured by the physical spread of the
> antenna itself (this usually attends discussion of capture area to

> many's frustration). Here, I am returning to the allusion above of
> Fresnel diffraction (near-field) and Fraunhofer diffraction
> (far-field). The math (non-techs, turn your eyes away) is as simple
> as:
>   2 D /lambda
>
> Let's work some examples from the sublime to the ridiculous on 80M.
>
> The traditional half-wave dipole antenna that exhibits the traditional
> usage for distinguishing between near and far:
>   2 40 /80 = 40 meters
> a smaller quarter-wave dipole antenna
>   2 20 /80 = 10 meters
> a tenth wave dipole antenna
>   2 8 /80 = 1.6 meters
> a fortieth wave dipole antenna
>   2 2 /80 = 10 centimeters
>
> Let's see where discussion follows in this regard.
>
> 73's
> Richard Clark, KB7QHC

where is your square?

Fraunhofer region starts at (22.5 degrees phase shift):

r = 2*D^2/lambda

D = largest antenna size (excluding structures that doesn't carry
current).

Formula is only valid for electrically large structures, so not an
electrically small loop or dipole.

For electrically small loops, reactive fields are dominant for:

r < 0.16*lambda

Smaller loop size does not result in smaller reactive field zone. The
correct formulas you can find everywhere. To make it easy for you:
http://www.conformity.com/past/0102reflections.html shows the
complete formulas for the electric and magnetic case, and a graph at
the end.

Best regards,

Wim
PA3DJS
www.tetech.nl

465. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-02 23:58:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i7mtm6huqce7s04p9hvfcq1342d4rmm0d9@4ax.com>
Source record: 5616

On Wed, 2 Mar 2011 17:40:15 +0000, ka7niq
<ka7niq.7b48478@radiobanter.com> wrote:

>
>OK, IF you just wanted to buy a magnetic loop antenna vs build one,
>what are the ones to look at that are for sale, and why ? AEA once made
>one when I left Tampa and lived out west in Seattle. I live in a small,
>non deed restricted house in Tampa with a flat membrane roof. I could
>get a loop on my roof I suppose, if the installation looked clean.

Hi OM,

The specifications of the major vendors that I have seen are usually
reliable.

You still need to answer what bands do you want to transmit on? If it
is 40M and up, you are pretty sure to find a lot of useful designs.

73's
Richard Clark, KB7QHC

466. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 00:50:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cgmtm65japks03o3ld6acn1o9gcjpk8v6t@4ax.com>
Source record: 5617

On Wed, 2 Mar 2011 15:29:55 -0800 (PST), Wimpie <wimabctel@tetech.nl>
wrote:

>Formula is only valid for electrically large structures, so not an
>electrically small loop or dipole.

"Large" or "small" are not quantities.

>For electrically small loops, reactive fields are dominant for:
and how small (quantifiable) is small (qualifiable)?
> r < 0.16*lambda
given that I have already demonstrated that, and more, what importance
do you attach to this that hasn't already been shown?

>Smaller loop size does not result in smaller reactive field zone.

What a curious defense for magnetic antennas's noise immunity.

However, the magnetic antenna is not immune from the reactive fields
of noise emitters that are very much larger than any loop discussed
here. It is the field of the emitter that is important. I thought I
would wait and see if anyone cottoned on to that aspect of the
discussion. If we proceed with the assumption (repeated here):
>Smaller loop size does not result in smaller reactive field zone.
then the magnetic antenna is doomed to noise in the same sense as an
electric antenna is. Offhand I would speculate that in an apartment
situation, a magnetic antenna on the balcony is saturated with
reactive noise fields.

73's
Richard Clark, KB7QHC

467. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 01:01:55 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ikmpa7$h1f$1@news.eternal-september.org>
Source record: 5618

On 3/2/2011 6:50 PM, Richard Clark wrote:
> On Wed, 2 Mar 2011 15:29:55 -0800 (PST), Wimpie<wimabctel@tetech.nl>
> wrote:
>
>> Formula is only valid for electrically large structures, so not an
>> electrically small loop or dipole.
>
> "Large" or "small" are not quantities.
>
>> For electrically small loops, reactive fields are dominant for:
> and how small (quantifiable) is small (qualifiable)?
>> r< 0.16*lambda
> given that I have already demonstrated that, and more, what importance
> do you attach to this that hasn't already been shown?
>
>> Smaller loop size does not result in smaller reactive field zone.
>
> What a curious defense for magnetic antennas's noise immunity.
>
> However, the magnetic antenna is not immune from the reactive fields
> of noise emitters that are very much larger than any loop discussed
> here.

Very much larger is not a quantity. How much larger?

> It is the field of the emitter that is important. I thought I
> would wait and see if anyone cottoned on to that aspect of the
> discussion. If we proceed with the assumption (repeated here):
>> Smaller loop size does not result in smaller reactive field zone.
> then the magnetic antenna is doomed to noise in the same sense as an
> electric antenna is. Offhand I would speculate that in an apartment
> situation, a magnetic antenna on the balcony is saturated with
> reactive noise fields.
>
> 73's
> Richard Clark, KB7QHC

468. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 02:34:12 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b44b1a19-6099-437f-b471-fd3d5559e518@n18g2000vbq.googlegroups.com>
Source record: 5619

Hello Richard,

> What a curious defense for magnetic antennas's noise immunity.

Where did I mention that this relates to noise immunity? I only tried
to point you to a misconception regarding the use of the 2*D^2/lambda
formula.

[start quote]
> The traditional half-wave dipole antenna that exhibits the traditional
> usage for distinguishing between near and far:
> 2 40 /80 = 40 meters
> a smaller quarter-wave dipole antenna
> 2 20 /80 = 10 meters
> a tenth wave dipole antenna
> 2 8 /80 = 1.6 meters
> a fortieth wave dipole antenna
> 2 2 /80 = 10 centimeters
>
> Let's see where discussion follows in this regard.
[end quote]

You want to believe us that a usable antenna with size=2m and
lambda=80m satisfies far field conditions at 10 cm, I really hope I
understood you wrong.

> However, the magnetic antenna is not immune from the reactive fields
> of noise emitters that are very much larger than any loop discussed
> here. It is the field of the emitter that is important. I thought I
> would wait and see if anyone cottoned on to that aspect of the
> discussion. If we proceed with the assumption (repeated here):
>

The dominant reactive field from a small "magnetic" loop or "electric"
antenna at lambda=80m extends to somewhat more then 10cm, think of
about 5m. Though the far fields may be similar, the reactive fields
are completely different in orientation, strength and E/H ratio. See
for example the link posted earlier:
http://www.conformity.com/past/0102reflections.html

This will result in complete different coupling to conductors present
in the reactive field zone. When using reciprocity, this will also
affect the coupling from noise current in the conductors towards the
antenna. So I can't follow your statement below:

>wimpie: Smaller loop size does not result in smaller reactive field zone.
> then the magnetic antenna is doomed to noise in the same sense as an
> electric antenna is.

Of course I agree with you for the case the noise source extends over large distance.

What antenna is better, you cannot say beforehand and is food for the experimenter (as I mentioned earlier).

This topic becomes lengthy. Do you think that it will result in better statements from other people on there websites (that was the subject of my first contribution)? The second part was just to show that the 3% claim for a 4 m loop (circumference) at 80m isn't bad.

I have real doubts about it, so I decided to send PM to Norbert some days ago to setup a more constructive discussion.

With kind regards,

Wim
PA3DJS
www.tetech.nl

469. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 07:35:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a3hum6dgqgfl15sb1jici0knnjtfhkmec3@4ax.com>
Source record: 5620

On Wed, 02 Mar 2011 19:01:55 -0600, John - KD5YI <sophi.2@invalid.org>
wrote:

>Very much larger is not a quantity. How much larger?

Twice - at least.

73's
Richard Clark, KB7QHC

470. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 08:27:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <h8hum61gpe8i7go8uduh7q81fdepvonesj@4ax.com>
Source record: 5621

On Wed, 2 Mar 2011 18:34:12 -0800 (PST), Wimpie <wimabctel@tetech.nl>
wrote:

>http://www.conformity.com/past/0102reflections.html

>This will result in complete different coupling to conductors present
>in the reactive field zone. When using reciprocity, this will also
>affect the coupling from noise current in the conductors towards the
>antenna.

Reciprocity does not appear in the text at your link and the concept
you are offering appears to be an invention that is unsupported. Let's
stick with unraveling one thing at a time.

So, working with your link's assertions give me a simple quantified
indicator of a reactive field.

73's
Richard Clark, KB7QHC

471. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 10:37:34 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <418b23a0-4adf-44e4-b0ea-fafb73016129@r4g2000vbq.googlegroups.com>
Source record: 5622

On 3 mar, 09:27, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 2 Mar 2011 18:34:12 -0800 (PST), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >http://www.conformity.com/past/0102reflections.html
> >This will result in complete different coupling to conductors present
> >in the reactive field zone. When using reciprocity, this will also
> >affect the coupling from noise current in the conductors towards the
> >antenna.
>
> Reciprocity does not appear in the text at your link and the concept
> you are offering appears to be an invention that is unsupported. Let's
> stick with unraveling one thing at a time.
>
> So, working with your link's assertions give me a simple quantified
> indicator of a reactive field.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

As I assume you understand complex calculus, that link (
http://www.conformity.com/past/0102reflections.html) was just to help
you to figure out field orientation and strength versus distance for
the magnetic and electrical case.

If you still believe in the 2*D^2/lambda far field formula for
electrically small antennas, I doubt whether it is useful to continue.

Best regards,

Wim
PA3DJS
www.tetech.nl

472. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 12:30:47 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <iko1lo$fg8$1@ra.nrl.navy.mil>
Source record: 5623

On 03/02/2011 03:56 PM, Wimpie wrote:

> If in your opinion there do not exist antennas that generate a
> dominant magnetic or electric field (in the near field), then you are
> contradicting yourself, as you can't transfer energy with a magnetic
> field or electric field only. So your transformer also involves
> electric fields. Maybe you should look into the Poynting theorem.

Hello, and that is correct. The Maxwell equations apply in all these cases. When solving such problems, especially when dealing with antennas, the total E-M field contains both reactive (electric/capacitive & magnetic/inductive) and radiative components, although certain components predominate depending on distance from the excited structure.

When dealing with A.C. circuit problems where dimensions are a fraction of a wavelength, one can usually ignore the the radiative/propagation components. Why solve a problem with a sledgehammer when a small claw hammer is adequate? Wouldn't you rather use Ohm's law in such case rather than dealing with E and H fields? For example, the behavior of A.C. power power distribution lines operating a 60 Hz can certainly be modeled using transmission line equations but unless they're very long (implying a propagation delay), a lumped-element/circuit approach is much more easily dealt with (lumped lines. And yes, I'm intimately familiar with the Poynting theorem and its derivation. (The designers of the CFA obviously weren't).

> When a noise source is about 5..10m away from an 3.6 MHz antenna, the
> coupling of that noise source towards a "magnetic" loop antenna may be
> different from the coupling towards an "electric" antenna, though
> both antennas may produce the same far field radiation. This is not
> from a textbook, but from experience (I am also working in power
> electronics).

There's no such thing as "magnetic" and "electric" antennas. The marketing departments of antenna vendors or others can call these whatever they want but they can't change the laws of physics. Now, if one dimensions a loop antenna or dipole antenna small enough (compared to a wavelength, one obtains a magnetic or electric dipole, respectively. Such dipoles (note the absence of the word "antenna") are a theoretical concept but can be applied in practice to those structures having electrically small radiators/interceptors.

> I fully agree with you on the far field statements, but when you live
> in an apartment (where significant spurious emission from home

> equipment are in the near field of your 3.6 MHz antenna), a so-called
> magnetic loop antenna may behave different (w.r.t. a short "electric"
> dipole). It can be worse or better. Many radio amateurs know this from
> experiments, without knowing the EM theory behind it.

Hey, I'm a fellow Ham and well aware of the contributions over the years by hams to antenna design. Many times, however, established electromagnetic theory is distorted to match the perceived observation. In the case of noise immunity I would discuss the size of the victim antenna, the antenna type (e.g. loop or dipole), antenna dimensions, orientation and proximity wrt the offending noise source, and whether the victim antenna is shielded and balanced. Unless one is referring to an electrically small antenna treated as a magnetic or electric dipole, typing an antenna as "magnetic" or "electric" is meaningless.

--
J. B. Wood e-mail: arl_123234@hotmail.com

473. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 12:44:57 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <iko2gafkp1@ra.nrl.navy.mil>
Source record: 5624

On 03/02/2011 03:56 PM, Wimpie wrote:

> If in your opinion there do not exist antennas that generate a
> dominant magnetic or electric field (in the near field), then you are
> contradicting yourself, as you can't transfer energy with a magnetic
> field or electric field only. So your transformer also involves
> electric fields. Maybe you should look into the Poynting theorem.

Hello, and that is correct. The Maxwell equations apply in all these cases. When solving such problems, especially when dealing with antennas, the total E-M field contains both reactive (electric/capacitive & magnetic/inductive) and radiative components, although certain components predominate depending on distance from the excited structure.

When dealing with A.C. circuit problems where dimensions are a fraction of a wavelength, one can usually ignore the the radiative/propagation components. Why solve a problem with a sledgehammer when a small claw hammer is adequate? Wouldn't you rather use Ohm's law in such cases rather than dealing directly with E and H fields? As an example, the behavior of A.C. power power distribution lines operating a 60 Hz can certainly be modeled using transmission line equations but unless they're very long (implying a propagation delay), a lumped-element/circuit approach is much more easily dealt with. And yes, I'm intimately familiar with the Poynting theorem and its derivation. (The designers of the crossed-field antenna (CFA) obviously weren't).

> When a noise source is about 5..10m away from an 3.6 MHz antenna, the
> coupling of that noise source towards a "magnetic" loop antenna may be
> different from the coupling towards an "electric" antenna, though
> both antennas may produce the same far field radiation. This is not
> from a textbook, but from experience (I am also working in power
> electronics).

There's no such thing as "magnetic" and "electric" antennas. The marketing departments of antenna vendors or others can call these whatever they want but they can't change the laws of physics. Now, if one dimensions a loop antenna or dipole antenna small enough (compared to a wavelength, one approaches a magnetic or electric dipole, respectively. Such dipoles (note the absence of the word "antenna") are a theoretical concept but can be applied in practice to those structures having electrically small radiators/interceptors. In these situations solving those pesky E-M near and far field integral equations is greatly

facilitated.

> I fully agree with you on the far field statements, but when you live
> in an apartment (where significant spurious emission from home
> equipment are in the near field of your 3.6 MHz antenna), a so-called
> magnetic loop antenna may behave different (w.r.t. a short "electric"
> dipole). It can be worse or better. Many radio amateurs know this from
> experiments, without knowing the EM theory behind it.

Hey, I'm a fellow Ham and well aware of the contributions over the years by hams to antenna design. Many times, however, established electromagnetic theory is distorted to match the perceived observation. In the case of noise immunity I would discuss the size of the victim antenna, the antenna type (e.g. loop or dipole), antenna dimensions, orientation and proximity wrt the offending noise source, and whether the victim antenna is shielded and balanced. Unless one is referring to an electrically small antenna treated as a magnetic or electric dipole, typing an antenna as "magnetic" or "electric" is meaningless.
Sincerely, and 73s from N4GGO,

--
J. B. Wood e-mail: arl_123234@hotmail.com

474. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 13:46:57 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <394351a5-4d75-4ba1-b92a-95f3404a2650@v16g2000vbq.googlegroups.com>
Source record: 5625

Hello John,

On 3 mar, 13:30, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 03/02/2011 03:56 PM, Wimpie wrote:
>
> > If in your opinion there do not exist antennas that generate a
> > dominant magnetic or electric field (in the near field), then you are
> > contradicting yourself, as you can't transfer energy with a magnetic
> > field or electric field only. So your transformer also involves
> > electric fields. Maybe you should look into the Poynting theorem.
>
> Hello, and that is correct. The Maxwell equations apply in all these
> cases. When solving such problems, especially when dealing with
> antennas, the total E-M field contains both reactive
> (electric/capacitive & magnetic/inductive) and radiative components,
> although certain components predominate depending on distance from the
> excited structure.
>
> When dealing with A.C. circuit problems where dimensions are a fraction
> of a wavelength, one can usually ignore the the radiative/propagation
> components. Why solve a problem with a sledgehammer when a small claw
> hammer is adequate? Wouldn't you rather use Ohm's law in such case
> rather than dealing with E and H fields? For example, the behavior of
> A.C. power power distribution lines operating a 60 Hz can certainly be
> modeled using transmission line equations but unless they're very long
> (implying a propagation delay), a lumped-element/circuit approach is
> much more easily dealt with (lumped lines. And yes, I'm intimately
> familiar with the Poynting theorem and its derivation. (The designers of
> the CFA obviously weren't).

Whoops, we have to be careful to not getting involved in a new
discussion, but I agree on your statement regarding that "special"
antenna and the statements regarding whether or not to use distributed
versus lumped circuit approach.

>
> > When a noise source is about 5..10m away from an 3.6 MHz antenna, the
> > coupling of that noise source towards a "magnetic" loop antenna may be
> > different from the coupling towards an "electric" antenna, though
> > both antennas may produce the same far field radiation. This is not
> > from a textbook, but from experience (I am also working in power
> > electronics).
>
> There's no such thing as "magnetic" and "electric" antennas.

That is why I added the word "dominant", as you can't transfer energy
with H or E only and we were discussing small antennas as shown on
Norberts website.

One may imagine the electrically small magnetic loop antenna as the
primary of a transformer where there is no secondary coil in the
reactive field. The RF leakage (far field radiation) by accident hit
the antenna of another amateur.

The
> marketing departments of antenna vendors or others can call these
> whatever they want but they can't change the laws of physics. Now, if
> one dimensions a loop antenna or dipole antenna small enough (compared
> to a wavelength, one obtains a magnetic or electric dipole,
> respectively. Such dipoles (note the absence of the word "antenna") are
> a theoretical concept but can be applied in practice to those structures
> having electrically small radiators/interceptors.
>
> > I fully agree with you on the far field statements, but when you live
> > in an apartment (where significant spurious emission from home
> > equipment are in the near field of your 3.6 MHz antenna), a so-called
> > magnetic loop antenna may behave different (w.r.t. a short "electric"
> > dipole). It can be worse or better. Many radio amateurs know this from
> > experiments, without knowing the EM theory behind it.
>
> Hey, I'm a fellow Ham and well aware of the contributions over the years
> by hams to antenna design. Many times, however, established
> electromagnetic theory is distorted to match the perceived observation.

I agree on the above. Let I mention the two letters "EH" in addition
to your three-letter combination to avoid a new discussion...

> In the case of noise immunity I would discuss the size of the victim
> antenna, the antenna type (e.g. loop or dipole), antenna dimensions,
> orientation and proximity wrt the offending noise source, and whether
> the victim antenna is shielded and balanced. Unless one is referring to
> an electrically small antenna treated as a magnetic or electric dipole,
> typing an antenna as "magnetic" or "electric" is meaningless.

With kind regards,

Wim
PA3DJS
www.tetech.nl

475. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 17:17:40 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ikoifojml1@news.eternal-september.org>
Source record: 5626

On 3/3/2011 1:35 AM, Richard Clark wrote:
> On Wed, 02 Mar 2011 19:01:55 -0600, John - KD5YI<sophi.2@invalid.org>
> wrote:
>
>> Very much larger is not a quantity. How much larger?
>
> Twice - at least.
>
> 73's
> Richard Clark, KB7QHC

So from twice to infinity. Still not a quantity. You seem to have the
same problem for which you berate others.

476. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 21:16:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <du00n6pmlqodi7tf1saa1bobgb4dpl7n0m@4ax.com>
Source record: 5627

On Thu, 3 Mar 2011 02:37:34 -0800 (PST), Wimpie <wimabctel@tetech.nl>
wrote:

>> So, working with your link's assertions give me a simple quantified
>> indicator of a reactive field.
>>
>
>As I assume you understand complex calculus, that link (
>http://www.conformity.com/past/0102reflections.html) was just to help
>you to figure out field orientation and strength versus distance for
>the magnetic and electrical case.

OK, so you cannot present a simple quantified indicator of a reactive
field from your own source.

It is quite apparent without going into math (I thought that appeals
to professionalism and academics like complex calculus were verboten
here) and I see it quite plainly ILLUSTRATED in Figure 3.

However, if you cannot vouchsafe for this source and agree to what it
represents, you are right, there is no basis for discussion.

>If you still believe in the 2*D^2/lambda far field formula for
>electrically small antennas, I doubt whether it is useful to continue.

I wish you wouldn't interpret beliefs and simple stick to what I've
written.

73's
Richard Clark, KB7QHC

477. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 21:21:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2c10n6l3s6aj4grhb60ukool0eifavtubg@4ax.com>
Source record: 5628

On Thu, 03 Mar 2011 11:17:40 -0600, John - KD5YI <sophi.2@invalid.org>
wrote:

>So from twice to infinity. Still not a quantity. You seem to have the
>same problem for which you berate others.

2 (twice) is not a number? The antenna most frequently discussed is a
40th wave or 2 meters across. These are two more numbers (40th and
2). Twice that yields to more numbers (20th and 4).

Infinity is not a number.

73's
Richard Clark, KB7QHC

478. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 23:14:54 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ikp7djhbb1@news.eternal-september.org>
Source record: 5629

On 3/3/2011 3:21 PM, Richard Clark wrote:
> On Thu, 03 Mar 2011 11:17:40 -0600, John - KD5YI<sophi.2@invalid.org>
> wrote:
>
>> So from twice to infinity. Still not a quantity. You seem to have the
>> same problem for which you berate others.
>
> 2 (twice) is not a number? The antenna most frequently discussed is a
> 40th wave or 2 meters across. These are two more numbers (40th and
> 2). Twice that yields to more numbers (20th and 4).
>
> Infinity is not a number.
>
> 73's
> Richard Clark, KB7QHC

You didn't say twice. You said "twice - at least". So what number is
that, Dick? I was taught that the phrase represented a range, not a
number. All you did was put a lower bound on a number you don't know.

479. Re: Information about my experience with Magnetic Loop antenna's on my homepage

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-03 23:58:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qn80n6tjci8mjs80pf7uq808qni2n2dub9@4ax.com>
Source record: 5630

On Thu, 03 Mar 2011 17:14:54 -0600, John - KD5YI <sophi.2@invalid.org>
wrote:

>All you did was put a lower bound on a number you don't know.

>> However, the magnetic antenna is not immune from the reactive fields
>> of noise emitters that are very much larger than any loop discussed
>> here.

Choose a "loop discussed here," and you have a number (1, 1.6, 2, and
4). Double (at least) that number, for that loop, and you have a new
number for the noise emitter (2, 3.2, 4, and 8). If you want to more
than double the original number (1, 1.6, 2, and 4), there are probably
practical examples of noise emitters for those numbers too.

The lower bound works as a practical matter but is not exclusive of
other practical, larger emitters. One common example would be the
standard 80M dipole which would give you a number of 40, but that is
not the upper bound.

So, having said double (2, 3.2, 4, and 8) at least (which allows up to
40 which is more than twice any previous number) and there being
larger numbers that satisfy the observation, the larger numbers become
an issue of practicality, not number. There are Rhombics (certainly
impractical for many) that have dimensions of 320 meters:
http://www.pa6z.nl/PROJECTS/ANTENNAS/RHOMBIC/body_rhombic.html

I suppose now the point to argue is "Is 40 (or 320) very much larger
than 1?"

For the benefit of Wimpie and beliefs: "I would believe so, although I
am open to convincing argument that 40 (or 320) is NOT very much
larger than 1."

73's
Richard Clark, KB7QHC

480. Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-05 15:25:24 UTC
From: ka7niq <ka7niq.7b82498@radiobanter.com>
Message-ID: <ka7niq.7b82498@radiobanter.com>
Source record: 5631

I have a tree here in the Tampa Florida area just begging to have a Hustler 4 or 5 BTV stuck in it. I have had great luck with ground mounted Hustler Verticals when I lived near the sal****er of Tampa Bay. I am now in Brandon Florida, east of Tampa, and far from salt water. I have stuck Hustler Verticals in trees before with radials for most bands, but had access to a bucket truck back then, and did not have stents in my heart. I got to thinking WHY not take a hustler vertical with only ONE Tuned "radial" for each band in the form of the lower part of a 1/2 wave dipole. In other words, make the Hustler Vertical into a multi band center fed 1/2 wave dipole. It will be a lot easier to deal with only one radial for each band if they hang straight down the tree vertically. Has anyone ever done this before ?

--
ka7niq

481. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-05 18:10:28 UTC
From: nm5k@wt.net
Message-ID: <480cdb59-a25d-4519-8760-7d4f7cd1b48f@glegroupsg2000goo.googlegroups.com>
Source record: 5632

It would work, but the lower radials would have to
be spread apart to avoid coupling issues.
One could also just hang a second trap vertical as
the lower half of the antenna..
But, being I am a radio bully, I tend to avoid trap
antennas. Hustler verticals are pretty lossy on the
lower bands when you factor in the loss of the traps,
and then the upper level loading coil required to
resonate the thing.
If I were to use a commercial antenna to do what
you propose, I think I would prefer a Butternut over
the Hustler. :/
But anyway, what you want to do will work, but it
would be best to angle the radials a bit away from
each other to minimize coupling and the tuning
difficulties you would see if they are very close
to each other.
Also, the amount of ground loss will depend on the
antennas height in wavelength. So I wouldn't expect
gangbuster performance on the low bands unless the
antenna is very high. And how high must be determined
for each band measured in wavelength. High on 10m,
might almost be considered on the ground on say 80m.
So the amount of radials needed for an equal amount
of ground loss will very greatly to the frequency.
So if say the whip base is at 20 feet in the tree, and
you are hanging an 8ft radial for 10m, the performance
should be fairly decent. The antenna is up at nearly 3/4
wavelength, and one radial will do well.
But on 80m, 20 ft is just barely off the ground at
less than 1/10 WL high and the tree is not even tall
enough to hang it vertical. It would need to be run out
at an angle, and with only one radial at that low height
in WL, performance is going to be lame.
Of course, if you can mount it higher, the frequency
where lameness creeps in will slowly drop as you get higher.
:/
If I wanted to work all bands, I'd use the tree as a
support for an all band horizontal dipole.
Or even better, parallel fed full size dipoles, which
is what I usually run.
It would do a better job in the overall scheme of
things. You would have a semi decent NVIS pattern on
the low bands, and still be able to work some DX.

With stunted vertical on the low bands, NVIS performance
will be pretty lame. Many of the guys just running
plain Jane low coax fed dipoles will be kicking sand in
your face on the shorter lower band paths. :|

482. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-06 06:03:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4q86n6h65q7uq78rpfkdu2dlvl7sla9a0f@4ax.com>
Source record: 5633

On Sun, 6 Mar 2011 04:22:28 +0000, ka7niq
<ka7niq.7b8cd58@radiobanter.com> wrote:

>How about a commercial wire trap dipole
>for 10 through 40 meters hung vertically instead ?
>

Hi OM,

Actually, many. Look at the GAP line of antennas (I have the Eagle).

73's
Richard Clark, KB7QHC

483. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-06 14:10:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fba6c0e7-1502-4e2e-a8b3-dfc13d27aab3@o30g2000pra.googlegroups.com>
Source record: 5634

On Mar 5, 9:25 am, ka7niq <ka7niq.7b82...@radiobanter.com> wrote:
> I got to thinking WHY not take a hustler vertical
> with only ONE Tuned "radial" for each band ...

You are trusting that each radial will be resonant on only one band akin to a fan vertical antenna. What may happen, for instance, is that the 40m radial may accept an appreciable amount of energy on 15m and direct the 15m signal up at a high take-off-angle - less than optimal for 15m operation. Other interactions are possible, e.g. 28MHz/4MHz=7, 18.14MHz/3.6MHz=5, etc. Any vertical radial resonant at 3/4WL, 5/4WL, 7/4WL, etc. will have a suboptimal effect on the take-off-angle.
--
73, Cecil, w5dxp.com

484. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-06 16:25:12 UTC
From: ka7niq <ka7niq.7b97619@radiobanter.com>
Message-ID: <ka7niq.7b97619@radiobanter.com>
Source record: 5635

Richard Clark;735424 Wrote:
> On Sun, 6 Mar 2011 04:22:28 +0000, ka7niq
> ka7niq.7b8cd58@radiobanter.com wrote:
> -
> How about a commercial wire trap dipole
> for 10 through 40 meters hung vertically instead ?
> -
>
> Hi OM,
>
> Actually, many. Look at the GAP line of antennas (I have the Eagle).
>
> 73's
> Richard Clark, KB7QHC A wire trapped dipole would be easier to hang vertically in a tree.

--
ka7niq

485. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-06 17:24:36 UTC
From: ka7niq <ka7niq.7b9ca78@radiobanter.com>
Message-ID: <ka7niq.7b9ca78@radiobanter.com>
Source record: 5637

Cecil Moore;735465 Wrote:
> On Mar 5, 9:25*am, ka7niq ka7niq.7b82...@radiobanter.com wrote:-
> I got to thinking WHY not take a hustler vertical
> with only ONE *Tuned "radial" for each band ...-
>
> You are trusting that each radial will be resonant on only one band
> akin to a fan vertical antenna. What may happen, for instance, is that
> the 40m radial may accept an appreciable amount of energy on 15m and
> direct the 15m signal up at a high take-off-angle - less than optimal
> for 15m operation. Other interactions are possible, e.g. 28MHz/4MHz=7,
> 18.14MHz/3.6MHz=5, etc. Any vertical radial resonant at 3/4WL, 5/4WL,
> 7/4WL, etc. will have a suboptimal effect on the take-off-angle.
> --
> 73, Cecil, w5dxp.com
I never considered this Cecil. Would you think it better to use a wire
trap dipole instead of the Hustler 4BTV
and hang it vertical in the tree ?

--
ka7niq

486. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-06 17:35:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <phg7n699dt765sv68n20gp1p6hrf1pkjmp@4ax.com>
Source record: 5636

On Sun, 6 Mar 2011 16:25:12 +0000, ka7niq
<ka7niq.7b97619@radiobanter.com> wrote:

>A wire trapped dipole would be easier to hang vertically in a tree.

Hi OM,

There are at least two difficulties with this - even though it sounds
eminently simple.

One, the two arms of the dipole have an uneven balance with ground.
This means that given the typical configuration of trap design and
placement, that the traps on each side must be different to account
for the lack of symmetry. In an ordinary horizontal placement, this
is not a problem.

Two, the standard advice for the feedline in a horizontal dipole is
that it drop away at a right angle for at least a quarterwave before
being turned in its route toward the shack. Well, the feedline still
has to drop away from the feedpoint, but with the antenna vertical,
this means it has to first move horizontally a quarterwave before
dropping and THEN turning towards the shack. This is unlikely to be a
practical construction, or you would have simply put up the dipole
horizontal in the first place.

The feedline trailing down alongside the lower arm of the vertical
dipole is going to seriously interfere with tuning and launch angle.
In a sense, it will be shorting out any traps in that arm.

This is why I offered the GAP line of products as an example of a
vertical dipoles. They are not the only line that offer a solution to
the problem of the feedline proximity. What they do is route the
feedline up INSIDE the lower dipole arm. Physics insures that the
inside of the arm is shielded from the outside. However, there is
still the problem of coupling at the lower tip (where the line enters
to go up). GAP puts a W2DU style choke there.

Now, as to your point of "hang vertically in a tree" suggests that the
GAP style antenna would be hung from its upper tip, rather than
mounted (electrically isolated too) at its lower tip. I'm sure you
could come to terms with that.

73's
Richard Clark, KB7QHC

487. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 07:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1299481501@panix.com>
Source record: 5638
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

488. Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 08:17:46 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7494ac$0$2450$65785112@news.neostrada.pl>
Source record: 5639

" Using such a pulse pattern makes the echo, which arrives back from the moon 2.4 seconds later". From: http://www.rense.com/general79/haarp.htm

"During the experiment, which was carried out on Oct. 28 and 29, 2007, the radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"

I do not know the distance to Moon on that days but for the mean distance 384 000 km the speed is:

384 000/2.4 = 320 000 km/s.

Speed of light is 300 000.

But long waves travel quicker in glass. Would be the same in space?
S*

489. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 12:21:19 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <il2ik3dca1@news.eternal-september.org>
Source record: 5640

"Szczepan Bialek" <sz.bialek@wp.pl> ha scritto nel messaggio
news:4d7494ac$0$2450$65785112@news.neostrada.pl...

> 384 000/2.4 = 320 000 km/s.
>
> Speed of light is 300 000.
>
> But long waves travel quicker in glass. Would be the same in space?
> S*

No. Maybe I don't understand the complex calculation under your quoted
division by 2.4, but....

Your "mean distance" have to be doubled: received *back* in 2,4 sec mean
that the signal traveled the double distance.
At minimum distance the moon is 356375 km far from earth. 356375*2 is 712750
km, that at light speed means a travel time of 2,37 sec.

Any greatest distance agree with classical physics laws, and a normal mind
don't care if the light travel faster, maybe care about the distance of the
moon at the time of test: exactly 360000 km from the earth.

Don't you ?

-.-. --.-, Italy. (sorry for my poor english).

490. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 13:17:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <98bdde38-fdef-45b7-9809-5d43e2cf69b3@18g2000prd.googlegroups.com>
Source record: 5641

On Mar 7, 8:17 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> " Using such a pulse pattern makes the echo, which arrives back from the
> moon 2.4 seconds later". From:http://www.rense.com/general79/haarp.htm
>
> "During the experiment, which was carried out on Oct. 28 and 29, 2007, the
> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>
> I do not know the distance to Moon on that days but for the mean distance
> 384 000 km the speed is:
>
> 384 000/2.4 = 320 000 km/s.
>
> Speed of light is 300 000.
>
> But long waves travel quicker in glass. Would be the same in space?
> S*

i'm glad you checked their calculation and found that obvious error...
i guess all the other radar calibrations in the world have to be
changed to account for the bialek speed effect... i wonder if that
would get you out of a radar gun speeding ticket?

491. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 17:22:28 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d751458$0$2502$65785112@news.neostrada.pl>
Source record: 5642

U�ytkownik "-.-. --.-" <a@a.com> napisa� w wiadomo�ci
news:il2ik3dca1@news.eternal-september.org...
>
> "Szczepan Bialek" <sz.bialek@wp.pl> ha scritto nel messaggio
> news:4d7494ac$0$2450$65785112@news.neostrada.pl...
>
>> 384 000/2.4 = 320 000 km/s.
>>
>> Speed of light is 300 000.
>>
>> But long waves travel quicker in glass. Would be the same in space?
>> S*
>
> No. Maybe I don't understand the complex calculation under your quoted
> division by 2.4, but....

You understand. Should be: 2x384 000 = 320 000.
>
> Your "mean distance" have to be doubled: received *back* in 2,4 sec mean
> that the signal traveled the double distance.
> At minimum distance the moon is 356375 km far from earth. 356375*2 is
> 712750 km, that at light speed means a travel time of 2,37 sec.

The test was made at "full Moon". ""Even though lunar echoes have been
detected before at higher frequencies, it was really exciting to see them
arrive in real time out under the full moon in the New Mexico desert,"

I do not know the distance. But some radio amateur practice communication
via Moon. Have they own observations?

>
> Any greatest distance agree with classical physics laws, and a normal mind
> don't care if the light travel faster, maybe care about the distance of
> the moon at the time of test: exactly 360000 km from the earth.

Now are transmitters on the Mars. They are able to give the answer for
Maxwell. He wrote:
" " Incidentally, Maxwell once suggested that Roemer's
method could be used to test for the isotropy of light speed, i.e., to test
whether the speed of light is the same in all directions. Roemer's method
can be regarded as a means of measuring the speed of light in the direction
from Jupiter to the Earth. Jupiter has an orbital period of about 12 years,
so if we use Roemer's method to evaluate the speed of light several times
over a 12 year period, we will be evaluating the speed in all possible
directions (in the plane of the ecliptic). " From:

http://www.mathpages.com/home/kmath203/kmath203.htm

As you see Maxwell care if the light travel everywhere with the same speed.

The same is with the wave lenght. Longer water waves travel faster. Is it
the same with radio waves?
S*

492. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 17:27:07 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d75156e$0$2440$65785112@news.neostrada.pl>
Source record: 5643
Body handling: HTML body converted to readable text

Uzytkownik "K1TTT" napisal w wiadomosci
news:98bdde38-fdef-45b7-9809-5d43e2cf69b3@18g2000prd.googlegroups.com...
On Mar 7, 8:17 am, "Szczepan Bialek" wrote:
> " Using such a pulse pattern makes the echo, which arrives back from the
> moon 2.4 seconds later". From:http://www.rense.com/general79/haarp.htm
>
> "During the experiment, which was carried out on Oct. 28 and 29, 2007, the
> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>
> I do not know the distance to Moon on that days but for the mean distance
> 384 000 km the speed is:
>
> 384 000/2.4 = 320 000 km/s.

Should be 2x384 000/2.4 = 320 000 km/s.
>
> Speed of light is 300 000.
>
> But long waves travel quicker in glass. Would be the same in space?
> S*

493. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 19:26:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3f4bf37e-1c52-40fa-b60e-387408788e77@34g2000pru.googlegroups.com>
Source record: 5644

On Mar 7, 5:22 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> U ytkownik "-.-. --.-" <a...@a.com> napisa w wiadomo
cinews:il2ik3dca1@news.eternal-september.org...
>
>
>
> > "Szczepan Bialek" <sz.bia...@wp.pl> ha scritto nel messaggio
> >news:4d7494ac$0$2450$65785112@news.neostrada.pl...
>
> >> 384 000/2.4 = 320 000 km/s.
>
> >> Speed of light is 300 000.
>
> >> But long waves travel quicker in glass. Would be the same in space?
> >> S*
>
> > No. Maybe I don't understand the complex calculation under your quoted
> > division by 2.4, but....
>
> You understand. Should be: 2x384 000 = 320 000.
>
>
>
> > Your "mean distance" have to be doubled: received *back* in 2,4 sec mean
> > that the signal traveled the double distance.
> > At minimum distance the moon is 356375 km far from earth. 356375*2 is
> > 712750 km, that at light speed means a travel time of 2,37 sec.
>
> The test was made at "full Moon". ""Even though lunar echoes have been
> detected before at higher frequencies, it was really exciting to see them
> arrive in real time out under the full moon in the New Mexico desert,"
>
> I do not know the distance. But some radio amateur practice communication
> via Moon. Have they own observations?
>
>
>
> > Any greatest distance agree with classical physics laws, and a normal mind
> > don't care if the light travel faster, maybe care about the distance of
> > the moon at the time of test: exactly 360000 km from the earth.
>
> Now are transmitters on the Mars. They are able to give the answer forMaxwell. He wrote:
>
> " " Incidentally, Maxwell once suggested that Roemer's

> method could be used to test for the isotropy of light speed, i.e., to test
> whether the speed of light is the same in all directions. Roemer's method
> can be regarded as a means of measuring the speed of light in the direction
> from Jupiter to the Earth. Jupiter has an orbital period of about 12 years,
> so if we use Roemer's method to evaluate the speed of light several times
> over a 12 year period, we will be evaluating the speed in all possible
> directions (in the plane of the ecliptic). "
From:http://www.mathpages.com/home/kmath203/kmath203.htm
>
> As you see Maxwell care if the light travel everywhere with the same speed.
>
> The same is with the wave lenght. Longer water waves travel faster. Is it
> the same with radio waves?
> S*

no

494. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-07 19:26:54 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2e631c65-1b3f-45ab-958c-78e805aadb56@x8g2000prh.googlegroups.com>
Source record: 5645
Body handling: HTML body converted to readable text

On Mar 7, 5:27 pm, "Szczepan Bialek" wrote:
> Uzytkownik "K1TTT" napisal w
wiadomoscinews:98bdde38-fdef-45b7-9809-5d43e2cf69b3@18g2000prd.googlegroups.com...
> On Mar 7, 8:17 am, "Szczepan Bialek" wrote:
>
> > " Using such a pulse pattern makes the echo, which arrives back from the
> > moon 2.4 seconds later". From:http://www.rense.com/general79/haarp.htm
>
> > "During the experiment, which was carried out on Oct. 28 and 29, 2007, the
> > radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>
> > I do not know the distance to Moon on that days but for the mean distance
> > 384 000 km the speed is:
>
> > 384 000/2.4 = 320 000 km/s.
>
> Should be 2x384 000/2.4 = 320 000 km/s.
>
>
>
> > Speed of light is 300 000.
>
> > But long waves travel quicker in glass. Would be the same in space?
> > S*
>
> i guess all the other radar calibrations in the world have to be
> changed to account for the bialek speed effect... i wonder if that
> would get you out of a radar gun speeding ticket?
>
> Did you communications via Moon?
> S*

do you?

495. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 00:35:34 UTC
From: tom <news4792@taring.org>
Message-ID: <4d7579d5$0$87581$8046368a@newsreader.iphouse.net>
Source record: 5646
Body handling: HTML body converted to readable text

On 3/7/2011 11:27 AM, Szczepan Bialek wrote:
> Uzytkownik "K1TTT" napisal w wiadomosci
> news:98bdde38-fdef-45b7-9809-5d43e2cf69b3@18g2000prd.googlegroups.com...
> On Mar 7, 8:17 am, "Szczepan Bialek" wrote:
>> " Using such a pulse pattern makes the echo, which arrives back from the
>> moon 2.4 seconds later". From:http://www.rense.com/general79/haarp.htm
>>
>> "During the experiment, which was carried out on Oct. 28 and 29, 2007, the
>> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>>
>> I do not know the distance to Moon on that days but for the mean distance
>> 384 000 km the speed is:
>>
>> 384 000/2.4 = 320 000 km/s.
>
> Should be 2x384 000/2.4 = 320 000 km/s.
>>
>> Speed of light is 300 000.
>>
>> But long waves travel quicker in glass. Would be the same in space?
>> S*
>
> i guess all the other radar calibrations in the world have to be
> changed to account for the bialek speed effect... i wonder if that
> would get you out of a radar gun speeding ticket?
>
> Did you communications via Moon?
> S*
>
>

I have, at another amateur's station, on 432 MHz. Surprisingly the
speed came out almost dead on 300m/microsecond. Used .wav file
recording of transmit and echo and a good sound file editor with
sub-millisecond resolution when zoomed.

tom
K0TAR

496. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 01:04:20 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <il3val$c9e$1@news.jpl.nasa.gov>
Source record: 5647

tom wrote:

>
> I have, at another amateur's station, on 432 MHz. Surprisingly the
> speed came out almost dead on 300m/microsecond. Used .wav file
> recording of transmit and echo and a good sound file editor with
> sub-millisecond resolution when zoomed.
>

Surprisingly?

You were thinking that propagation might be at some other rate?

the dominant error source in your measurement is probably the sound
card's clock.

For other fun measurements of em propagation speed.. melting the mode
pattern of a microwave oven cooking chamber at 2450 MHz into a single
layer of marshmallows on a plate (turning off the rotating turntable and
mode-stirrer, of course). Chocolate morsels might also work.

Other methods, for visible light, include the spinning toothed wheels of
Fizeau and rotating multifacet prisms of Foucault (later updated by
Michelson)

Interference fringes from a laser, as well.

if one is looking for more "radio" than "light".. look at the doppler
effect from a moving source. The fractional change in frequency is
equal to the velocity/propagation velocity.

If you do something like measure the frequency from, oh, an orbiting
satellite and get the whole "doppler curve" you can figure out the
frequency of the oscillator (it's the frequency at which the second
derivative of measured frequency goes through zero). You can measure
the velocity of the satellite optically (if you pick a satellite which
is visible, like ISS)

497. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 02:16:37 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <il43ib$7ep$1@news.eternal-september.org>
Source record: 5648

On 3/7/2011 2:17 AM, Szczepan Bialek wrote:
> " Using such a pulse pattern makes the echo, which arrives back from the
> moon 2.4 seconds later". From: http://www.rense.com/general79/haarp.htm
>
> "During the experiment, which was carried out on Oct. 28 and 29, 2007, the
> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>
> I do not know the distance to Moon on that days but for the mean distance
> 384 000 km the speed is:
>
> 384 000/2.4 = 320 000 km/s.
>
> Speed of light is 300 000.
>
> But long waves travel quicker in glass. Would be the same in space?
> S*
>
>

There is no space. It is packed with compressed aether.

John

498. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 02:37:46 UTC
From: tom <news4792@taring.org>
Message-ID: <4d759678$0$87580$8046368a@newsreader.iphouse.net>
Source record: 5649

On 3/7/2011 7:04 PM, Jim Lux wrote:
> tom wrote:
>
>>
>> I have, at another amateur's station, on 432 MHz. Surprisingly the
>> speed came out almost dead on 300m/microsecond. Used .wav file
>> recording of transmit and echo and a good sound file editor with
>> sub-millisecond resolution when zoomed.
>>
>
> Surprisingly?

With implied facetiousness. Should have been more obvious I guess.

10m dish with full legal power, BTW. Very good signal to noise.

tom
K0TAR

>
> You were thinking that propagation might be at some other rate?
>
> the dominant error source in your measurement is probably the sound
> card's clock.
>
> For other fun measurements of em propagation speed.. melting the mode
> pattern of a microwave oven cooking chamber at 2450 MHz into a single
> layer of marshmallows on a plate (turning off the rotating turntable and
> mode-stirrer, of course). Chocolate morsels might also work.
>
>
> Other methods, for visible light, include the spinning toothed wheels of
> Fizeau and rotating multifacet prisms of Foucault (later updated by
> Michelson)
>
> Interference fringes from a laser, as well.
>
> if one is looking for more "radio" than "light".. look at the doppler
> effect from a moving source. The fractional change in frequency is equal
> to the velocity/propagation velocity.
>
> If you do something like measure the frequency from, oh, an orbiting
> satellite and get the whole "doppler curve" you can figure out the
> frequency of the oscillator (it's the frequency at which the second
> derivative of measured frequency goes through zero). You can measure the

> velocity of the satellite optically (if you pick a satellite which is
> visible, like ISS)

499. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 08:25:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d75e808$0$2445$65785112@news.neostrada.pl>
Source record: 5650
Body handling: HTML body converted to readable text

"tom" napisal w wiadomosci
news:4d7579d5$0$87581$8046368a@newsreader.iphouse.net...
> On 3/7/2011 11:27 AM, Szczepan Bialek wrote:
>> Uzytkownik "K1TTT" napisal w wiadomosci
>> news:98bdde38-fdef-45b7-9809-5d43e2cf69b3@18g2000prd.googlegroups.com...
>> On Mar 7, 8:17 am, "Szczepan Bialek" wrote:
>>> " Using such a pulse pattern makes the echo, which arrives back from the
>>> moon 2.4 seconds later". From:http://www.rense.com/general79/haarp.htm
>>>
>>> "During the experiment, which was carried out on Oct. 28 and 29, 2007,
>>> the
>>> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>>>
>>> I do not know the distance to Moon on that days but for the mean
>>> distance
>>> 384 000 km the speed is:
>>>
>>> 384 000/2.4 = 320 000 km/s.
>>
>> Should be 2x384 000/2.4 = 320 000 km/s.
>>>
>>> Speed of light is 300 000.
>>>
>>> But long waves travel quicker in glass. Would be the same in space?
>>> S*
>>
>> > i guess all the other radar calibrations in the world have to be
>> changed to account for the bialek speed effect... i wonder if that
>> would get you out of a radar gun speeding ticket?
>>
>> Did you communications via Moon?
>> S*
>>
>>
>
> I have, at another amateur's station, on 432 MHz. Surprisingly the speed
> came out almost dead on 300m/microsecond. Used .wav file recording of
> transmit and echo and a good sound file editor with sub-millisecond
> resolution when zoomed.

I have checked the Moon history and now I know that on Oct. 28 2007 was
"full Moon" at perygeum. So the speed was close to 300m/microsecond.

But I am steel loking for the evidences that the speed of radio waves is
temperature and wave lenght dependant.
S*

500. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 08:41:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d75ebc0$0$2441$65785112@news.neostrada.pl>
Source record: 5501

"K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:3f4bf37e-1c52-40fa-b60e-387408788e77@34g2000pru.googlegroups.com...
On Mar 7, 5:22 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> U ytkownik "-.-. --.-" <a...@a.com> napisa w wiadomo
> cinews:il2ik3dca1@news.eternal-september.org...
>
>
>
> > "Szczepan Bialek" <sz.bia...@wp.pl> ha scritto nel messaggio
> >news:4d7494ac$0$2450$65785112@news.neostrada.pl...
>
> >> 384 000/2.4 = 320 000 km/s.
>
> >> Speed of light is 300 000.
>
> >> But long waves travel quicker in glass. Would be the same in space?
> >> S*
>
> > No. Maybe I don't understand the complex calculation under your quoted
> > division by 2.4, but....
>
> You understand. Should be: 2x384 000 = 320 000.
>
>
>
> > Your "mean distance" have to be doubled: received *back* in 2,4 sec mean
> > that the signal traveled the double distance.
> > At minimum distance the moon is 356375 km far from earth. 356375*2 is
> > 712750 km, that at light speed means a travel time of 2,37 sec.
>
> The test was made at "full Moon". ""Even though lunar echoes have been
> detected before at higher frequencies, it was really exciting to see them
> arrive in real time out under the full moon in the New Mexico desert,"
>
> I do not know the distance. But some radio amateur practice communication
> via Moon. Have they own observations?
>
>
>
> > Any greatest distance agree with classical physics laws, and a normal
> > mind
> > don't care if the light travel faster, maybe care about the distance of
> > the moon at the time of test: exactly 360000 km from the earth.
>

> Now are transmitters on the Mars. They are able to give the answer
> forMaxwell. He wrote:
>
> " " Incidentally, Maxwell once suggested that Roemer's
> method could be used to test for the isotropy of light speed, i.e., to
> test
> whether the speed of light is the same in all directions. Roemer's method
> can be regarded as a means of measuring the speed of light in the
> direction
> from Jupiter to the Earth. Jupiter has an orbital period of about 12
> years,
> so if we use Roemer's method to evaluate the speed of light several times
> over a 12 year period, we will be evaluating the speed in all possible
> directions (in the plane of the ecliptic). "
> From:http://www.mathpages.com/home/kmath203/kmath203.htm
>
> As you see Maxwell care if the light travel everywhere with the same
> speed.
>
> The same is with the wave lenght. Longer water waves travel faster. Is it
> the same with radio waves?
> S*

<no

No for your (Heavisde's) paper waves.
My waves are Tesla's waves: http://www.tfcbooks.com/tesla/1929-09-22.htm

Tesla say in 1929: " The effects, according to my view, were due to minute particles of matter carrying enormous electrical charges, which, for want of a better name, I designated as matter not further decomposable. Subsequently those particles were called electrons."

The same wrote Faraday in 1846: http://www.padrak.com/ine/FARADAY1.html

I assume that the two greatest man are right.

Electrons are produced by the Sun (rare plasma +dust). They rotate with the Sun and their temperature is place dependent. Speed of the pressure waves must be also the place and frequency dependent.

But you do not care about that . You are fine with the EM waves. Are you?
S*

501. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 09:04:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d75f11b$0$2508$65785112@news.neostrada.pl>
Source record: 5502

Uzytkownik "John - KD5YI" <sophi.2@invalid.org> napisal w wiadomosci
news:il43ib$7ep$1@news.eternal-september.org...
> On 3/7/2011 2:17 AM, Szczepan Bialek wrote:
>> " Using such a pulse pattern makes the echo, which arrives back from the
>> moon 2.4 seconds later". From: http://www.rense.com/general79/haarp.htm
>>
>> "During the experiment, which was carried out on Oct. 28 and 29, 2007,
>> the
>> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>>
>> I do not know the distance to Moon on that days but for the mean distance
>> 384 000 km the speed is:
>>
>>2x 384 000/2.4 = 320 000 km/s.
>>
>> Speed of light is 300 000.
>>
>> But long waves travel quicker in glass. Would be the same in space?
>
> There is no space. It is packed with compressed aether.

No aether as "a medium filling all space, called the ether, which was
structureless, of inconceivable tenuity and yet solid and possessed of
rigidity incomparably greater than that of the hardest steel" (Tesla).

Space is filled with the ISM (rare plasma +dust). ISM is produced by stars
and rotate with them. So radio waves are the electron waves. Acoustic waves
are ions waves.
S*

502. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 16:59:01 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <89bfa296-b4f6-4bf3-b14e-208d013be7ca@r4g2000prm.googlegroups.com>
Source record: 5503

On Mar 6, 12:24 pm, ka7niq <ka7niq.7b9c...@radiobanter.com> wrote:
> Cecil Moore;735465 Wrote:> On Mar 5, 9:25*am, ka7niq ka7niq.7b82...@radiobanter.com
wrote:-
> > I got to thinking WHY not take a hustler vertical
> > with only ONE *Tuned "radial" for each band ...-
>
> > You are trusting that each radial will be resonant on only one band
> > akin to a fan vertical antenna. What may happen, for instance, is that
> > the 40m radial may accept an appreciable amount of energy on 15m and
> > direct the 15m signal up at a high take-off-angle - less than optimal
> > for 15m operation. Other interactions are possible, e.g. 28MHz/4MHz=7,
> > 18.14MHz/3.6MHz=5, etc. Any vertical radial resonant at 3/4WL, 5/4WL,
> > 7/4WL, etc. will have a suboptimal effect on the take-off-angle.
> > --
> > 73, Cecil, w5dxp.com
>
> I never considered this Cecil. Would you think it better to use a wire
> trap dipole instead of the Hustler 4BTV
> and hang it vertical in the tree ?
>
> --
> ka7niq

My experience with the Hustler 4BTV hasn't been good. Over two hamfest
I bought 4 of them, lucky for me I was only buying then for the tubing
and mount and paid around $10 each for them. I dont think any of them
had a trap that wasnt bad.

Jimmie

503. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 17:19:42 UTC
From: ka7niq <ka7niq.7bc6d79@radiobanter.com>
Message-ID: <ka7niq.7bc6d79@radiobanter.com>
Source record: 5507

JIMMIE;735930 Wrote:
> On Mar 6, 12:24*pm, ka7niq ka7niq.7b9c...@radiobanter.com wrote:-
> Cecil Moore;735465 Wrote: On Mar 5, 9:25*am, ka7niq
> ka7niq.7b82...@radiobanter.com wrote:--
> I got to thinking WHY not take a hustler vertical
> with only ONE *Tuned "radial" for each band ...--
> -
> You are trusting that each radial will be resonant on only one band
> akin to a fan vertical antenna. What may happen, for instance, is
> that
> the 40m radial may accept an appreciable amount of energy on 15m and
> direct the 15m signal up at a high take-off-angle - less than optimal
> for 15m operation. Other interactions are possible, e.g.
> 28MHz/4MHz=7,
> 18.14MHz/3.6MHz=5, etc. Any vertical radial resonant at 3/4WL, 5/4WL,
> 7/4WL, etc. will have a suboptimal effect on the take-off-angle.
> --
> 73, Cecil, w5dxp.com-
>
> I never considered this Cecil. Would you think it better to use a wire
> trap dipole instead of the Hustler 4BTV
> and hang it vertical in the tree ?
>
> --
> ka7niq-
>
> My experience with the Hustler 4BTV hasn't been good. Over two hamfest
> I bought 4 of them, lucky for me I was only buying then for the tubing
> and mount and paid around $10 each for them. I dont think any of them
> had a trap that wasnt bad.
>
> Jimmie I have decided against the use of the Hustler 4BTV. I am going to buy a
CB antenna for use on 17 through 10 meters, keep the feed line short,
and use it with a tuner. I have been reading that several Hams are doing
exactly this with the Antron 99 and Sirio Gain Master CB antennas, with
decent results. I do plan on a self supporting tower one day, but this
will get me on the air, until then.

--
ka7niq

504. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 17:20:24 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <il5ogouiv1@news.jpl.nasa.gov>
Source record: 5504
Body handling: HTML body converted to readable text

```
Szczepan Bialek wrote:
> "tom" napisal w wiadomosci
> news:4d7579d5$0$87581$8046368a@newsreader.iphouse.net...
>> On 3/7/2011 11:27 AM, Szczepan Bialek wrote:
>>> Uzytkownik "K1TTT" napisal w wiadomosci
>>> news:98bdde38-fdef-45b7-9809-5d43e2cf69b3@18g2000prd.googlegroups.com...
>>> On Mar 7, 8:17 am, "Szczepan Bialek" wrote:
>>>> " Using such a pulse pattern makes the echo, which arrives back from the
>>>> moon 2.4 seconds later". From:http://www.rense.com/general79/haarp.htm
>>>>
>>>> "During the experiment, which was carried out on Oct. 28 and 29, 2007,
>>>> the
>>>> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>>>>
>>>> I do not know the distance to Moon on that days but for the mean
>>>> distance
>>>> 384 000 km the speed is:
>>>>
>>>> 384 000/2.4 = 320 000 km/s.
>>> Should be 2x384 000/2.4 = 320 000 km/s.
>>>> Speed of light is 300 000.
>>>>
>>>> But long waves travel quicker in glass. Would be the same in space?
>>>> S*
>>> >> i guess all the other radar calibrations in the world have to be
>>> changed to account for the bialek speed effect... i wonder if that
>>> would get you out of a radar gun speeding ticket?
>>>
>>> Did you communications via Moon?
>>> S*
>>>
>>>
>> I have, at another amateur's station, on 432 MHz. Surprisingly the speed
>> came out almost dead on 300m/microsecond. Used .wav file recording of
>> transmit and echo and a good sound file editor with sub-millisecond
>> resolution when zoomed.
>
> I have checked the Moon history and now I know that on Oct. 28 2007 was
> "full Moon" at perygeum. So the speed was close to 300m/microsecond.
>
> But I am steel loking for the evidences that the speed of radio waves is
> temperature and wave lenght dependant.
> S*
```

>
>

in vacuum, of course, there is no dependency on wavelength.

in a dispersive medium, there is a dependency on wavelength. A good practical example of a dispersive medium for radio is the ionosphere.

interplanetary space also is very slightly dispersive (due to the small, but non-zero, ion content)

Inasmuch as temperature and ionization are related, I suppose there's a relation, but nothing like you see with sound, where there's a very strong relationship between propagation velocity and temperature (but that's because the mechanism of sound propagation is molecules/atoms colliding with each other)

505. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 17:21:39 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <il5oj4uiv2@news.jpl.nasa.gov>
Source record: 5505

JIMMIE wrote:

>
> My experience with the Hustler 4BTV hasn't been good. Over two hamfest
> I bought 4 of them, lucky for me I was only buying then for the tubing
> and mount and paid around $10 each for them. I dont think any of them
> had a trap that wasnt bad.
>
Maybe the bad traps were why they were only $10?

506. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 18:13:18 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <5ed505d4-d5bc-4a2f-8eb6-06a43d99bb9b@e9g2000vbk.googlegroups.com>
Source record: 5506

On 5 mar, 16:25, ka7niq <ka7niq.7b82...@radiobanter.com> wrote:
> I have a tree here in the Tampa Florida area just begging to have a
> Hustler 4 or 5 BTV stuck in it. I have had great luck with ground
> mounted Hustler Verticals when I lived near the sal****er of Tampa Bay.
> I am now in Brandon Florida, east of Tampa, and far from salt water. I
> have stuck Hustler Verticals in trees before with radials for most
> bands, but had access to a bucket truck back then, and did not have
> stents in my heart. I got to thinking WHY not take a hustler vertical
> with only ONE Tuned "radial" for each band in the form of the lower
> part of a 1/2 wave dipole. In other words, make the Hustler Vertical
> into a multi band center fed 1/2 wave dipole. It will be a lot easier to
> deal with only one radial for each band if they hang straight down the
> tree vertically. Has anyone ever done this before ?
>
> --
> ka7niq

Hello Chris,

From another thread I concluded you have a flat membrane roof.

If you plan to use the 80/75m antenna for NVIS (local traffic) mostly,
why not putting a horizontal dipole above your roof. It will be very
likely below resonance length, but you can match this to 50 Ohms. This
will almost certainly result in better efficiency w.r.t. the
commercial vertical. For 40m and below, you can go vertical.

If you like to experiment and know the problems w.r.t. RF high
voltage, you may try a vertical resonating antenna that is in half
wave resonance. You will get end-fed voltages in the kV range, but the
common mode current will be significantly less w.r.t. a quarter wave
resonating structure. This reduces the requirements for your ground
provision and the ground loss.

What is the height of the tree that you plan to use as support (in
other words what is the maximum vertical height you can use)?

With kind regards,

Wim
PA3DJS
www.tetech.nl

507. New blog from Costa Rica, mostly on wire antennas (new dual EDZ posted)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-08 23:34:03 UTC
From: TI2-NA7U <TI2-NA7U.7bcc1d8@radiobanter.com>
Message-ID: <TI2-NA7U.7bcc1d8@radiobanter.com>
Source record: 5512

Hi Folks,

I've been blogging about our new life here in Costa Rica for the past couple of years at ' http://adullroar.blogspot.com' (http://adullroar.blogspot.com) and just started up another one that is solely about my ham radio hobby. Quite a few changes to the setup that I had in Oregon, though I was able to bring down my 2 elt. 5-band quad, though I had to leave behind the boatanchor gear. :p

I'm into CW and PSK31, have a couple of K2s, a KX1, and a Ten Tec Scout that is somewhere in a box still. My QSL manager is W6WU.

Anyway, stop by at http://cloud-warmer.blogspot.com where I will probably being writing a lot about my favorite part of the hobby, wire antennas!

I just finished modeling a 2 elt. rotatable EDZ for 10 meters that shows over 13 dBi and over 12 dB F/B! I hope to have it in operation in a month or two. You can download the .nec file at the blog.

73 es pura vida,

Casey, TI2/NA7U

--
TI2-NA7U

508. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 00:07:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <il6gbu$6dm$1@news.jpl.nasa.gov>
Source record: 5508

ka7niq wrote:
> JIMMIE;735930 Wrote:
>> On Mar 6, 12:24*pm, ka7niq ka7niq.7b9c...@radiobanter.com wrote:-
>> Cecil Moore;735465 Wrote: On Mar 5, 9:25*am, ka7niq
>> ka7niq.7b82...@radiobanter.com wrote:--
>> I got to thinking WHY not take a hustler vertical
>> with only ONE *Tuned "radial" for each band ...--
>> -
>> You are trusting that each radial will be resonant on only one band
>> akin to a fan vertical antenna. What may happen, for instance, is
>> that
>> the 40m radial may accept an appreciable amount of energy on 15m and
>> direct the 15m signal up at a high take-off-angle - less than optimal
>> for 15m operation. Other interactions are possible, e.g.
>> 28MHz/4MHz=7,
>> 18.14MHz/3.6MHz=5, etc. Any vertical radial resonant at 3/4WL, 5/4WL,
>> 7/4WL, etc. will have a suboptimal effect on the take-off-angle.
>> --
>> 73, Cecil, w5dxp.com-
>>
>> I never considered this Cecil. Would you think it better to use a wire
>> trap dipole instead of the Hustler 4BTV
>> and hang it vertical in the tree ?
>>
>> --
>> ka7niq-
>>
>> My experience with the Hustler 4BTV hasn't been good. Over two hamfest
>> I bought 4 of them, lucky for me I was only buying then for the tubing
>> and mount and paid around $10 each for them. I dont think any of them
>> had a trap that wasnt bad.
>>
>> Jimmie I have decided against the use of the Hustler 4BTV. I am going to buy a
> CB antenna for use on 17 through 10 meters, keep the feed line short,
> and use it with a tuner. I have been reading that several Hams are doing
> exactly this with the Antron 99 and Sirio Gain Master CB antennas, with
> decent results. I do plan on a self supporting tower one day, but this
> will get me on the air, until then.
>

If you put an autotuner at the base of a 1/4 wave 10m vertical (i.e.
2.5m long), and some random length radials, for 10,12,15,17, and 20, it
will work fairly well.

The feedpoint impedance of a half length antenna (i.e. 1/8 wavelength vertical) isn't so horribly different that losses will bite you. (for comparison.. I ran some models a while ago for a 20-odd foot vertical. resonant (Z=39 ohms) at 9.4 MHz, and at 4.7 MHz, the z was 14-271j. I just happened to have that data handy.. you're looking at a shorter antenna and higher frequencies, but the ratios are likely to be similar.

W9CF's tuner calculator says a T network for the first case (Z=39 at 9.4MHz) would have 0.1 dB loss (3%), and for the second case, you'd have 1.7dB loss (33%)

While it's not great to burn a third of your power in tuner/feedline losses, on the other hand, it's also not horrible.

If you can put up something that's around 3-4 meters (10-13 feet) long, that will work even better. A piece of plastic pipe with some 12gauge wire inside it, for instance. or a 10 foot length of thinwall 1/2" conduit (sure, it's steel, but it's also got pretty good surface area.. without actually doing the calculation, it's probably comparable to a 12AWG wire in resistance)

509. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 00:13:56 UTC
From: ka7niq <ka7niq.7bcc1d8@radiobanter.com>
Message-ID: <ka7niq.7bcc1d8@radiobanter.com>
Source record: 5513

'Wimpie[_2_ Wrote:
> ;735960']On 5 mar, 16:25, ka7niq ka7niq.7b82...@radiobanter.com wrote:-
> I have a tree here in the Tampa Florida area just begging to have a
> Hustler 4 or 5 BTV stuck in it. I have had great luck with ground
> mounted Hustler Verticals when I lived near the sal****er of Tampa
> Bay.
> I am now in Brandon Florida, east of Tampa, and far from salt water. I
> have stuck Hustler Verticals in trees before with radials for most
> bands, but had access to a bucket truck back then, and did not have
> stents in my heart. I got to thinking WHY not take a hustler vertical
> with only ONE *Tuned "radial" for each band in the form of the lower
> part of a 1/2 wave dipole. In other words, make the Hustler Vertical
> into a multi band center fed 1/2 wave dipole. It will be a lot easier
> to
> deal with only one radial for each band if they hang straight down the
> tree vertically. Has anyone ever done this before ?
>
> --
> ka7niq-
>
> Hello Chris,
>
> From another thread I concluded you have a flat membrane roof.
>
> If you plan to use the 80/75m antenna for NVIS (local traffic) mostly,
> why not putting a horizontal dipole above your roof. It will be very
> likely below resonance length, but you can match this to 50 Ohms. This
> will almost certainly result in better efficiency w.r.t. the
> commercial vertical. For 40m and below, you can go vertical.
>
> If you like to experiment and know the problems w.r.t. RF high
> voltage, you may try a vertical resonating antenna that is in half
> wave resonance. You will get end-fed voltages in the kV range, but the
> common mode current will be significantly less w.r.t. a quarter wave
> resonating structure. This reduces the requirements for your ground
> provision and the ground loss.
>
> What is the height of the tree that you plan to use as support (in
> other words what is the maximum vertical height you can use)?
>
> With kind regards,
>
>
> Wim

> PA3DJS
> www.tetech.nl

The Tree is about 40 feet tall, and yes I do have a flat roof. I could attach a sloping wire from the tree to the roof, and center feed it with ladder line. This wire would be about 60 to 80 feet long, give and take a little. Unfortunately, it will be very visible!

--
ka7niq

510. Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 02:42:50 UTC
From: Richard Neilsen <richardneilsen@optusnet.com.au>
Message-ID: <4d76e929$0$24911$afc38c87@news.optusnet.com.au>
Source record: 5509

Anyone have a design for band pass filters?

TIA

Cheers
Richard

511. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 02:57:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4d76ec7d$0$6699$8046368a@newsreader.iphouse.net>
Source record: 5510

On 3/8/2011 2:25 AM, Szczepan Bialek wrote:
>> I have, at another amateur's station, on 432 MHz. Surprisingly the speed
>> came out almost dead on 300m/microsecond. Used .wav file recording of
>> transmit and echo and a good sound file editor with sub-millisecond
>> resolution when zoomed.
>
> I have checked the Moon history and now I know that on Oct. 28 2007 was
> "full Moon" at perygeum. So the speed was close to 300m/microsecond.
>

Well that's a nice bit of trivia you bring up, but that was not the
correct date, and not even the correct decade.

So why did you bring it up?

> But I am steel loking for the evidences that the speed of radio waves is
> temperature and wave lenght dependant.
> S*

You won't see it except when it's not in vacuum and then it's very
difficult for people like you to detect it. You actually have to do
something.

tom
K0TAR

512. Re: Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 04:20:37 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <lpbj48-174.ln1@mail.specsol.com>
Source record: 5511

Richard Neilsen <richardneilsen@optusnet.com.au> wrote:
> Anyone have a design for band pass filters?

Lots of people and lots of different design calculators on the web.

What kind of band pass filter did you have in mind audio, RF, LC, crystal,
cavity, strip line?

--
Jim Pennino

Remove .spam.sux to reply.

513. Re: Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 05:18:46 UTC
From: Ken Fowler <ko6no@yahoo.com>
Message-ID: <L-SdnagiausokOrQnZ2dnUVZ5tWdnZ2d@giganews.com>
Source record: 5514

On 8-Mar-2011, "Richard Neilsen" <richardneilsen@optusnet.com.au> wrote:

> ref: number.nntp.dca.giganews.com rec.radio.amateur.antenna:321042
>
> Anyone have a design for band pass filters?
>
> TIA
>
> Cheers
> Richard

There is a good Filter Design Tool at http://www.aade.com/ which you can use to design bandpass, lowpass, and highpass filters with any number of poles and configurations. It's free but it nags you until you buy their LC Meter.
The LC Meter is a good bargain and if you are going to build filters, you need to measure a lot of Ls and Cs.

73. -ken-
--

514. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 09:24:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d77475e$0$2458$65785112@news.neostrada.pl>
Source record: 5515

"tom" <news4792@taring.org> napisal w wiadomosci
news:4d76ec7d$0$6699$8046368a@newsreader.iphouse.net...
> On 3/8/2011 2:25 AM, Szczepan Bialek wrote:
>>> I have, at another amateur's station, on 432 MHz. Surprisingly the
>>> speed
>>> came out almost dead on 300m/microsecond. Used .wav file recording of
>>> transmit and echo and a good sound file editor with sub-millisecond
>>> resolution when zoomed.
>>
>> I have checked the Moon history and now I know that on Oct. 28 2007 was
>> "full Moon" at perygeum. So the speed was close to 300m/microsecond.
>>
>
> Well that's a nice bit of trivia you bring up, but that was not the
> correct date, and not even the correct decade.
>
> So why did you bring it up?

On Oct. 28 2007 radio echo appeared after 2.4s.
>
> > But I am steel loking for the evidences that the speed of radio waves is
> > temperature and wave lenght dependant.
> > S*
>
> You won't see it except when it's not in vacuum and then it's very
> difficult for people like you to detect it. You actually have to do
> something.

Jim wrote: "interplanetary space also is very slightly dispersive (due to
the small,
but non-zero, ion content)"

Are many people who detect physical phenomenon. I am looking for the
description.
S*

515. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 09:42:15 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d774b8a$0$2445$65785112@news.neostrada.pl>
Source record: 5516

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:il5ogouiv1@news.jpl.nasa.gov...
> Szczepan Bialek wrote:
>>.
>>
>> But I am steel loking for the evidences that the speed of radio waves is
>> temperature and wave lenght dependant.
>
> in vacuum, of course, there is no dependency on wavelength.
>
> in a dispersive medium, there is a dependency on wavelength. A good
> practical example of a dispersive medium for radio is the ionosphere.
>
> interplanetary space also is very slightly dispersive (due to the small,
> but non-zero, ion content)
>
> Inasmuch as temperature and ionization are related, I suppose there's a
> relation, but nothing like you see with sound, where there's a very strong
> relationship between propagation velocity and temperature (but that's
> because the mechanism of sound propagation is molecules/atoms colliding
> with each other)

If Tesla is right than the radio waves propagation is electrons colliding
with each other.
Faraday was the same opinion: "I suppose we may compare together the matter
of the aether and ordinary matter (as, for instance, the copper of the wire
through which the electricity is conducted), and consider them as alike in
their essential constitution; i.e. either as both composed of little nuclei,
considered in the abstract as matter, and of force or power associated with
these nuclei"

Faraday known that the speed of waves is the same in copper and space. The
media must be the same. Charged particles = electrons.

Analogy sound - electric waves is full.
S*

516. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 12:44:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <04b2b131-5266-4faa-831e-6f38edbda639@j9g2000prj.googlegroups.com>
Source record: 5517

On Mar 9, 3:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Faraday known that the speed of waves is the same in copper and space.

RF waves (fields/photons) cannot exist or flow IN copper. RF waves (fields/photons) flow in the space surrounding copper. The free electrons in a copper wire move only at a tiny fraction of the speed of light, 0.00028 m/s in the Wikipedia example. For RF signals, the electrons move hardly at all and can be considered to be vibrating in place acting as a sort of bucket brigade for the photons.

http://en.wikipedia.org/wiki/Drift_velocity
--
73, Cecil, w5dxp.com

517. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 14:05:53 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c0cd6759-6ffb-40b0-8355-cf7c51fa2305@u3g2000vbe.googlegroups.com>
Source record: 5518

On 9 mar, 01:13, ka7niq <ka7niq.7bcc...@radiobanter.com> wrote:
> 'Wimpie[_2_ Wrote:
>
>
>
> > ;735960']On 5 mar, 16:25, ka7niq ka7niq.7b82...@radiobanter.com wrote:-
> > I have a tree here in the Tampa Florida area just begging to have a
> > Hustler 4 or 5 BTV stuck in it. I have had great luck with ground
> > mounted Hustler Verticals when I lived near the sal****er of Tampa
> > Bay.
> > I am now in Brandon Florida, east of Tampa, and far from salt water. I
> > have stuck Hustler Verticals in trees before with radials for most
> > bands, but had access to a bucket truck back then, and did not have
> > stents in my heart. I got to thinking WHY not take a hustler vertical
> > with only ONE *Tuned "radial" for each band in the form of the lower
> > part of a 1/2 wave dipole. In other words, make the Hustler Vertical
> > into a multi band center fed 1/2 wave dipole. It will be a lot easier
> > to
> > deal with only one radial for each band if they hang straight down the
> > tree vertically. Has anyone ever done this before ?
>
> > --
> > ka7niq-
>
> > Hello Chris,
>
> > From another thread I concluded you have a flat membrane roof.
>
> > If you plan to use the 80/75m antenna for NVIS (local traffic) mostly,
> > why not putting a horizontal dipole above your roof. It will be very
> > likely below resonance length, but you can match this to 50 Ohms. This
> > will almost certainly result in better efficiency w.r.t. the
> > commercial vertical. For 40m and below, you can go vertical.
>
> > If you like to experiment and know the problems w.r.t. RF high
> > voltage, you may try a vertical resonating antenna that is in half
> > wave resonance. You will get end-fed voltages in the kV range, but the
> > common mode current will be significantly less w.r.t. a quarter wave
> > resonating structure. This reduces the requirements for your ground
> > provision and the ground loss.
>
> > What is the height of the tree that you plan to use as support (in
> > other words what is the maximum vertical height you can use)?
>

> > With kind regards,
>
> > Wim
> > PA3DJS
> >www.tetech.nl
>
> The Tree is about 40 feet tall, and yes I do have a flat roof. I could
> attach a sloping wire from the tree to the roof, and center feed it with
> ladder line. This wire would be about 60 to 80 feet long, give and take
> a little. Unfortunately, it will be very visible!
>
> --
> ka7niq

Hello Chris,

My idea is/was to have the (short) 75/80m dipole above your roof (assuming that the roof supporting structure isn't conducting). When you put the matching components and balun function in a box on the roof, you can go down with just a coaxial cable. This will keep the VSWR within acceptable limits to allow further matching in the shack. If space/visibility permits, I would go for the ladder line as you suggested. Main disadvantage of the dipole above the roof: interference from and towards domestic equipment.

When the visibility of the dipole above the roof meets aesthetic rules by far, you may put 2 or more wires to the dipole (fan type short dipole). This reduces the reactive component, without reducing the radiation resistance, so matching becomes easier. Visibility, is this really a problem?

Given the size of the tree, 40m and below should be possible without huge investment in ground provision. For 10m the wire/tube length isn't good, unless you can add a reactance to get collinear behavior.

The above doesn’t mean 80m isn't possible, but due to the low radiation resistance (about 5 Ohms), you need a better counterpoise / ground provision, and the NVIS performance of your vertical isn't good.

As with many things, making a choice isn't easy. A tree 60..80 feet from your house looks very attractive from an interference perspective.

With kind regards,

Wim
PA3DJS
www.tetech.nl

518. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-09 19:41:18 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d77d7e2$0$2492$65785112@news.neostrada.pl>
Source record: 5519

"Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:04b2b131-5266-4faa-831e-6f38edbda639@j9g2000prj.googlegroups.com...
On Mar 9, 3:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Faraday known that the speed of waves is the same in copper and space.

>RF waves (fields/photons) cannot exist or flow IN copper. RF waves
(fields/photons) flow in the space surrounding copper. The free
electrons in a copper wire move only at a tiny fraction of the speed
of light, 0.00028 m/s in the Wikipedia example. For RF signals, the
electrons move hardly at all and can be considered to be vibrating in
place acting as a sort of bucket brigade for the photons.

All waves are the vibrations in place.

Faraday wrote: " The velocity of light through space is about 190,000 miles
in a second; the velocity of electricity is, by the experiments of
Wheatstone, shown to be as great as this, if not greater: the light is
supposed to be transmitted by vibrations through an aether which is, so to
speak, destitute of gravitation, but infinite in elasticity; the electricity
is transmitted through a small metallic wire, and is often viewed as
transmitted by vibrations also."

The electrons drift is like Stokes drift:
http://en.wikipedia.org/wiki/Stokes_drift
S*

519. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-10 01:25:11 UTC
From: extra class <namvet@vietnamwar.com>
Message-ID: <il999ptkj1@speranza.aioe.org>
Source record: 5520
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"A bunch of fat, sweaty, socially-maladjusted losers..."
Unsubstantiated stereotyping, most likely referring to an abusive hobby
obsessed father.

520. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-10 01:54:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4d782f38$0$87584$8046368a@newsreader.iphouse.net>
Source record: 5521

On 3/9/2011 3:24 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> napisal w wiadomosci
>>
>> So why did you bring it up?
>
> On Oct. 28 2007 radio echo appeared after 2.4s.

What echo? You shouted from a mountain? Be specific, use examples.

>>
>>> But I am steel loking for the evidences that the speed of radio waves is
>>> temperature and wave lenght dependant.
>>> S*
>>
>> You won't see it except when it's not in vacuum and then it's very
>> difficult for people like you to detect it. You actually have to do
>> something.
>
> Jim wrote: "interplanetary space also is very slightly dispersive (due to
> the small,
> but non-zero, ion content)"
>
> Are many people who detect physical phenomenon. I am looking for the
> description.
> S*

Those comments had no relation whatsoever to what I said. You are
blathering again. As usual.

tom
K0TAR

521. Police Gear - Police Equipment - Police Uniforms -

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-10 07:11:37 UTC
From: yfop875442 <yfop875442.7be67b8@radiobanter.com>
Message-ID: <yfop875442.7be67b8@radiobanter.com>
Source record: 5523

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& Flashers Radar & Video Pushbumpers & Screens Consoles & Organizers Seat & Trunk Organizers Gun Racks & Locks Accessories - - - - - - - - - - - - Clearance Items All Categories Medical Supplies Medical Kits First Aid Supplies CPR, Oxygen & Resuscitation Immobilization, Splinting & Extrication Medical Gloves & Infection Control Diagnostic Equipment AEDs Accessories - - - - - - - - - - - - Clearance Items All Categories Flashlights Duty Flashlights Tactical Flashlights Fire Flashlights & Lanterns Spotlights General Purpose Flashlights Batteries & Accessories - - - - - - - - - - - - Clearance Items All Categories Gear & Equipment Bags & Organizers Body Armor Handcuffs & Restraints Batons Tactical Equipment & Riot Gear Training Equipment Checkpoint Security Defense Sprays Shooting & Weapon Accessories Knives, Tools & Vehicle Opening Traffic Safety & Control Communications Fire/Rescue Gear Investigation, Evidence & Surveillance Bike Patrol Equipment - - - - - - - - - - - - Clearance Items All Categories -->
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is temporarily unavailable
on the GSA Advantage website -->

--
yfop875442

522. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-10 08:05:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d78864f$0$2458$65785112@news.neostrada.pl>
Source record: 5522

"tom" <news4792@taring.org> napisal w wiadomosci
news:4d782f38$0$87584$8046368a@newsreader.iphouse.net...
> On 3/9/2011 3:24 AM, Szczepan Bialek wrote:
>> "tom"<news4792@taring.org> napisal w wiadomosci
>>>
>>> So why did you bring it up?
>>
>> On Oct. 28 2007 radio echo appeared after 2.4s.
>
> What echo? You shouted from a mountain? Be specific, use examples.

My first post: "" Using such a pulse pattern makes the echo, which arrives
back from the
moon 2.4 seconds later". From: http://www.rense.com/general79/haarp.htm

"During the experiment, which was carried out on Oct. 28 and 29, 2007, the
radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"

I do not know the distance to Moon on that days but for the mean distance
384 000 km the speed is:

2x384 000/2.4 = 320 000 km/s."

At that time the Moon was at perygeum so the speed was 300 000.

>
>>>
>>>> But I am steel loking for the evidences that the speed of radio waves
>>>> is
>>>> temperature and wave lenght dependant.
>>>> S*
>>>
>>> You won't see it except when it's not in vacuum and then it's very
>>> difficult for people like you to detect it. You actually have to do
>>> something.
>>
>> Jim wrote: "interplanetary space also is very slightly dispersive (due to
>> the small,
>> but non-zero, ion content)"
>>
>> Are many people who detect physical phenomenon. I am looking for the
>> description.
>> S*
>
> Those comments had no relation whatsoever to what I said. You are
> blathering again. As usual.

Speed of light in air, glass, water is temperature (mirage) and
wavelenght.dependent.

In space should be the same, but for Tesla's waves.
S*

523. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-10 18:21:35 UTC
From: nm5k@wt.net
Message-ID: <593b647d-2dd4-431f-a9b9-05496dd8b574@glegroupsg2000goo.googlegroups.com>
Source record: 5524

Anyone that would call me fat needs new spectacles. :/
I have been known to sweat, but only profusely when I
have to work in hot attics.
I am socially maladjusted, and actually thrive in this
state. My dad was never a ham, so I can't blame him for
being radioactive, or even a radio bully for that matter.
His idea of a hobby was cooking portions of dead animals
on a charcoal grilling device. No RF required.

524. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-11 03:48:15 UTC
From: tom <news4792@taring.org>
Message-ID: <4d799b7c$0$6701$8046368a@newsreader.iphouse.net>
Source record: 5525

On 3/10/2011 2:05 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> napisal w wiadomosci
>> What echo? You shouted from a mountain? Be specific, use examples.
>
> My first post: "" Using such a pulse pattern makes the echo, which arrives
> back from the
> moon 2.4 seconds later". From: http://www.rense.com/general79/haarp.htm
>
> "During the experiment, which was carried out on Oct. 28 and 29, 2007, the
> radar signals from HAARP were at 7.4075 MHz and 9.4075 MHz"
>
> I do not know the distance to Moon on that days but for the mean distance
> 384 000 km the speed is:
>
> 2x384 000/2.4 = 320 000 km/s."
>

I recorded the audio from the 2008/01/19 test. Did you?

What measurements did you get from it?

I am very interested.

I have reportable results. It was a perigee plus or minus your
location. And I have a correction factor for the delay from the HAARP
site to my location in Minnesota.

Do you know your location?

What do you have for results?

tom
K0TAR

525. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-11 09:29:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d79eb60$0$2439$65785112@news.neostrada.pl>
Source record: 5526

"tom" <news4792@taring.org> napisal w wiadomosci
news:4d799b7c$0$6701$8046368a@newsreader.iphouse.net...
> On 3/10/2011 2:05 AM, Szczepan Bialek wrote:
>>>
> I recorded the audio from the 2008/01/19 test. Did you?
>
> What measurements did you get from it?
>
> I am very interested.

The "full Moon" was on 2008/01/22. The distance was about 365 000 km.
>
> I have reportable results. It was a perigee plus or minus your location.
> And I have a correction factor for the delay from the HAARP site to my
> location in Minnesota.
>
> Do you know your location?
>
> What do you have for results?

I am a reader only.
S*
>

526. Re: Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-11 16:15:21 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <1Xdd+LGZqkeNFw5m@g3ohx.demon.co.uk>
Source record: 5527

In message <L-SdnagiausokOrQnZ2dnUVZ5tWdnZ2d@giganews.com>, Ken Fowler
<ko6no@yahoo.com> writes
>
>On 8-Mar-2011, "Richard Neilsen" <richardneilsen@optusnet.com.au> wrote:
>
>> ref: number.nntp.dca.giganews.com rec.radio.amateur.antenna:321042
>>
>> Anyone have a design for band pass filters?
>>
>> TIA
>>
>> Cheers
>> Richard
>
>There is a good Filter Design Tool at http://www.aade.com/ which you can
>use to design bandpass, lowpass, and highpass filters with any number of
>poles and configurations. It's free but it nags you until you buy their LC
>Meter.
>The LC Meter is a good bargain and if you are going to build filters, you
>need to measure a lot of Ls and Cs.
>
It's now over four years since I used it, but I found the AADE filter
design program very good. A works colleague bought and made up the LC
meter kit, and was also pleased with it.
--
Ian

527. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-11 17:20:36 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <482q48-s3.ln1@mail.specsol.com>
Source record: 5528

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "tom" <news4792@taring.org> napisal w wiadomosci
> news:4d799b7c$0$6701$8046368a@newsreader.iphouse.net...
>> On 3/10/2011 2:05 AM, Szczepan Bialek wrote:
>>>>
>> I recorded the audio from the 2008/01/19 test. Did you?
>>
>> What measurements did you get from it?
>>
>> I am very interested.
>
> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.

The Moon being full has nothing to do with it's distance from Earth or
it's radio reflectivity.

You are a babbling idiot.

>>
>> I have reportable results. It was a perigee plus or minus your location.
>> And I have a correction factor for the delay from the HAARP site to my
>> location in Minnesota.
>>
>> Do you know your location?
>>
>> What do you have for results?
>
> I am a reader only.

And a very poor one at that.

--
Jim Pennino

Remove .spam.sux to reply.
```

528. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 00:09:52 UTC
From: tom <news4792@taring.org>
Message-ID: <4d7ab9cb$0$6699$8046368a@newsreader.iphouse.net>
Source record: 5529

On 3/11/2011 3:29 AM, Szczepan Bialek wrote:
>
> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.

Which is irrelevant being 3 days later than the HAARP test.

>>
>> What do you have for results?
>
> I am a reader only.

How unsurprising. You DO nothing. Except repeat theories which were
proven incorrect over 100 years ago.

> S*

tom
K0TAR

529. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 00:21:58 UTC
From: tom <news4792@taring.org>
Message-ID: <4d7abca2$0$6700$8046368a@newsreader.iphouse.net>
Source record: 5530

On 3/11/2011 3:29 AM, Szczepan Bialek wrote:
>
> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.

Quite incorrect, since perigee was 366435 km on the 19th. Your number
is way too low for what it would have been on the 22nd.

Do you ever check anything for correctness?

tom
K0TAR

530. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 08:26:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7b2e47$0$2443$65785112@news.neostrada.pl>
Source record: 5531

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4d7ab9cb$0$6699$8046368a@newsreader.iphouse.net...
> On 3/11/2011 3:29 AM, Szczepan Bialek wrote:
>>
>> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.
>
> Which is irrelevant being 3 days later than the HAARP test.
>
>>>
>>> What do you have for results?
>>
>> I am a reader only.
>
> How unsurprising. You DO nothing. Except repeat theories which were
> proven incorrect over 100 years ago.

Longer waves travel faster in air and glass. The same is in real space. But
I do not know how much. So I am asking.
S*

531. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 08:40:18 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7b3176$0$2445$65785112@news.neostrada.pl>
Source record: 5532

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4d7abca2$0$6700$8046368a@newsreader.iphouse.net...
> On 3/11/2011 3:29 AM, Szczepan Bialek wrote:
>>
>> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.
>
> Quite incorrect, since perigee was 366435 km on the 19th. Your number is
> way too low for what it would have been on the 22nd.
>
> Do you ever check anything for correctness?

I am asking if radio waves are faster than light.
Now is possibility to measure the both between the Earth and Moon and speed
of radio waves between Mars and Earth..
For centuries is possibility to measure speed of light in space between
Jovian and Earth.

Probably the Moon is to close to the Earth to pick up the difference. Is it
enough at full correctness?
S*

532. VIDEOS FOR HOT GUYS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 15:47:28 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <c11852fd-da4e-41cf-ac13-87bc6876ecd4@w7g2000pre.googlegroups.com>
Source record: 5533

hot sexy videos
http://sexy-rainsongs.blogspot.com/
hot keerthi chawla
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beautiful tamil actress
http://sexy-rainsongs.blogspot.com/2011/03/tamil-actress.html
FOR FUNNY VIDEOS
http://sexy-rainsongs.blogspot.com/p/funny-video.html

533. Re: Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 22:41:54 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <c347afbc-cf72-4d93-894a-66655c68ebc6@q12g2000prb.googlegroups.com>
Source record: 5534

On Mar 8, 6:42 pm, "Richard Neilsen" <richardneil...@optusnet.com.au>
wrote:
> Anyone have a design for band pass filters?
>
> TIA
>
> Cheers
> Richard

Others have mentioned AADE's program, which is good. I usually use Elsie (www.tonnesoftware.com); the free version will likely do what you need. Elsie and the AADE program are different enough that it's worth having both if you do much filter work. For simple filters, there's an ap in RFSim99, which is a worthwhile program for all the other things it covers too -- also available by free download. And of course there are plenty of web-based filter designers.

One thing to beware of is that the filter design programs won't in general tell you everything you should know about practical aspects. Some will let you put in coil Q, which is helpful, but they usually won't tell you the effects of stray coupling between inductors, or of stray capacitance. Some filters I've worked with are very tolerant of a little stray coupling, and others are extremely sensitive to it. If you build a filter according to a design that either the AADE progarm or Elsie gives you and it doesn't perform like you think it should, don't be too quick to blame the program!

If you tell us more about the goals for the filter, we might be able to give you some further hints.

Cheers,
Tom

534. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 23:33:05 UTC
From: tom <news4792@taring.org>
Message-ID: <4d7c02ab$0$6708$8046368a@newsreader.iphouse.net>
Source record: 5535

```
On 3/12/2011 2:26 AM, Szczepan Bialek wrote:
> Uzytkownik "tom"<news4792@taring.org> napisal w wiadomosci
> news:4d7ab9cb$0$6699$8046368a@newsreader.iphouse.net...
>> On 3/11/2011 3:29 AM, Szczepan Bialek wrote:
>>>
>>> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.
>>
>> Which is irrelevant being 3 days later than the HAARP test.
>>
>>>>
>>>> What do you have for results?
>>>
>>> I am a reader only.
>>
>> How unsurprising. You DO nothing. Except repeat theories which were
>> proven incorrect over 100 years ago.
>
> Longer waves travel faster in air and glass. The same is in real space. But
> I do not know how much. So I am asking.
> S*
>
>

You are incorrect. But explaining it would do no good, as you have
proven that you do not listen and can not learn.

tom
K0TAR
```

535. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-12 23:35:54 UTC
From: tom <news4792@taring.org>
Message-ID: <4d7c0354$0$6708$8046368a@newsreader.iphouse.net>
Source record: 5536

On 3/12/2011 2:40 AM, Szczepan Bialek wrote:
> Uzytkownik "tom"<news4792@taring.org> napisal w wiadomosci
> news:4d7abca2$0$6700$8046368a@newsreader.iphouse.net...
>> On 3/11/2011 3:29 AM, Szczepan Bialek wrote:
>>>
>>> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.
>>
>> Quite incorrect, since perigee was 366435 km on the 19th. Your number is
>> way too low for what it would have been on the 22nd.
>>
>> Do you ever check anything for correctness?
>
> I am asking if radio waves are faster than light.

Radio waves and light are the same thing except we call them something
different due to wavelength.

> Now is possibility to measure the both between the Earth and Moon and speed
> of radio waves between Mars and Earth..
> For centuries is possibility to measure speed of light in space between
> Jovian and Earth.
>
> Probably the Moon is to close to the Earth to pick up the difference. Is it
> enough at full correctness?
> S*
>
>

Tests of earth to moon to earth, earth to venus to earth all give the
same speed of light regardless of frequency used.

tom
K0TAR

536. Re: Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-13 02:24:53 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ilh9tv$u1u$1@news.eternal-september.org>
Source record: 5537

On 3/12/2011 4:41 PM, K7ITM wrote:
> On Mar 8, 6:42 pm, "Richard Neilsen"<richardneil...@optusnet.com.au>
> wrote:
>> Anyone have a design for band pass filters?
>>
>> TIA
>>
>> Cheers
>> Richard
>
> Others have mentioned AADE's program, which is good. I usually use
> Elsie (www.tonnesoftware.com); the free version will likely do what
> you need. Elsie and the AADE program are different enough that it's
> worth having both if you do much filter work. For simple filters,
> there's an ap in RFSim99, which is a worthwhile program for all the
> other things it covers too -- also available by free download. And of
> course there are plenty of web-based filter designers.
>
> One thing to beware of is that the filter design programs won't in
> general tell you everything you should know about practical aspects.
> Some will let you put in coil Q, which is helpful, but they usually
> won't tell you the effects of stray coupling between inductors, or of
> stray capacitance. Some filters I've worked with are very tolerant of
> a little stray coupling, and others are extremely sensitive to it. If
> you build a filter according to a design that either the AADE progarm
> or Elsie gives you and it doesn't perform like you think it should,
> don't be too quick to blame the program!
>
> If you tell us more about the goals for the filter, we might be able
> to give you some further hints.
>
> Cheers,
> Tom

Excellent tips, Tom. Thanks from a lurker.

Cheers,
John

537. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-13 10:26:16 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7c9bcb$0$2453$65785112@news.neostrada.pl>
Source record: 5538

"tom" <news4792@taring.org> napisal w wiadomosci
news:4d7c0354$0$6708$8046368a@newsreader.iphouse.net...
> On 3/12/2011 2:40 AM, Szczepan Bialek wrote:
>>
>> I am asking if radio waves are faster than light.
>
> Radio waves and light are the same thing except we call them something
> different due to wavelength.
>
>> Now is possibility to measure the both between the Earth and Moon and
>> speed
>> of radio waves between Mars and Earth..
>> For centuries is possibility to measure speed of light in space between
>> Jovian and Earth.
>>
>> Probably the Moon is to close to the Earth to pick up the difference. Is
>> it
>> enough at full correctness?
>
> Tests of earth to moon to earth, earth to venus to earth all give the same
> speed of light regardless of frequency used.

It is an obiect of interesting for ages. The first was observing of color
changes of Io (Jovian's satellite). But the difference in light frequences
are small.
But light and radio waves have extremally different frequences. You wrote:
"Tests of earth to moon to earth, earth to venus to earth all give the
> same speed of light regardless of frequency used." Write "if radio waves
> are faster than light".

Speed of light in space is known thanks Roemer.s method. Now are radio
transmitters on the Mars and is possibility to use the Roemer's method for
radio waves. NASA know the results. Are thy pulished?
S*

538. Re: Amateur Radio Respect, and Warning

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-13 13:12:08 UTC
From: Mild&Bitter <mashup@radiowymsey.org>
Message-ID: <ilifr6$f4h$1@news.eternal-september.org>
Source record: 5539

On 11/02/11 15:35, Bert Hyman wrote:

>
> And saddest of all is the OP's seemingly random selection of newsgroups,
> especially when he chose to identify himself as "no.spam@no.spam."
>

To clarify: That indicates that the OP does not want any spam not that
he won't send any.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

539. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-13 18:04:35 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <jidv48-k7o.ln1@mail.specsol.com>
Source record: 5540

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "tom" <news4792@taring.org> napisal w wiadomosci
> news:4d7c0354$0$6708$8046368a@newsreader.iphouse.net...
>> On 3/12/2011 2:40 AM, Szczepan Bialek wrote:
>>>
>>> I am asking if radio waves are faster than light.
>>
>> Radio waves and light are the same thing except we call them something
>> different due to wavelength.
>>
>>> Now is possibility to measure the both between the Earth and Moon and
>>> speed
>>> of radio waves between Mars and Earth..
>>> For centuries is possibility to measure speed of light in space between
>>> Jovian and Earth.
>>>
>>> Probably the Moon is to close to the Earth to pick up the difference. Is
>>> it
>>> enough at full correctness?
>>
>> Tests of earth to moon to earth, earth to venus to earth all give the same
>> speed of light regardless of frequency used.
>
> It is an obiect of interesting for ages. The first was observing of color
> changes of Io (Jovian's satellite). But the difference in light frequences
> are small.
> But light and radio waves have extremally different frequences. You wrote:
> "Tests of earth to moon to earth, earth to venus to earth all give the
>> same speed of light regardless of frequency used." Write "if radio waves
>> are faster than light".
>
> Speed of light in space is known thanks Roemer.s method. Now are radio
> transmitters on the Mars and is possibility to use the Roemer's method for
> radio waves. NASA know the results. Are thy pulished?
> S*

The speed of light and the speed of radio waves are identical, you babbling
idiot.

Light and radio waves are the same thing at different frequencies, you
droooing cretin.

If you had ever read anything written less than 100 years ago, you would
know all this was proved long ago, you gibbering moron.
```

--
Jim Pennino

Remove .spam.sux to reply.

540. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 08:02:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7dcba6$0$2447$65785112@news.neostrada.pl>
Source record: 5541

<jimp@specsol.spam.sux.com> napisa&#65533; w wiadomo&#65533;ci
news:jidv48-k7o.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>>
>> Speed of light in space is known thanks Roemer.s method. Now are radio
>> transmitters on the Mars and is possibility to use the Roemer's method
>> for
>> radio waves. NASA know the results. Are they published?
>> S*
>
> The speed of light and the speed of radio waves are identical, you
> babbling
> idiot.
>
> Light and radio waves are the same thing at different frequencies, you
> droooing cretin.
>
> If you had ever read anything written less than 100 years ago, you would
> know all this was proved long ago, you gibbering moron.

In todays textbooks is wrote that speed of light is frequency dependent
(glass prism).
The same is in air (atmosphere). Why the heliosphere is different?
S*

541. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 15:30:34 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <qto158-ma3.ln1@mail.specsol.com>
Source record: 5542

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> napisa? w wiadomo?ci
> news:jidv48-k7o.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>>
>>> Speed of light in space is known thanks Roemer.s method. Now are radio
>>> transmitters on the Mars and is possibility to use the Roemer's method
>>> for
>>> radio waves. NASA know the results. Are they published?
>>> S*
>>
>> The speed of light and the speed of radio waves are identical, you
>> babbling
>> idiot.
>>
>> Light and radio waves are the same thing at different frequencies, you
>> droooing cretin.
>>
>> If you had ever read anything written less than 100 years ago, you would
>> know all this was proved long ago, you gibbering moron.
>
> In todays textbooks is wrote that speed of light is frequency dependent
> (glass prism).

You can't read, you babbling moron, that is NOT what today's textbooks
say.

The speed of light is not frequency dependent, it is medium dependent,
that is it is dependent on the refractive index of the medium.

The refractive index of a medium is frequency dependent.

You haven't a clue which is the cause and which is the effect.

> The same is in air (atmosphere). Why the heliosphere is different?
> S*

Yet more meaningless, babbling, nonsense with no connection to reality.

--
Jim Pennino

Remove .spam.sux to reply.
```

542. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 15:32:11 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e0b95d4d-76c3-4ec6-bc88-ad93b06a199d@z3g2000prz.googlegroups.com>
Source record: 5543

On Mar 14, 3:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> In todays textbooks is wrote that speed of light is frequency dependent
> (glass prism).
> The same is in air (atmosphere). Why the heliosphere is different?

The difference of which you speak is very small. The atmosphere is
about 0.27 % of the total distance between the earth and the moon.
0.27% of "very small" would be very, very small.
--
73, Cecil, w5dxp.com

543. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 16:51:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7e47b2$0$2503$65785112@news.neostrada.pl>
Source record: 5544

"Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:e0b95d4d-76c3-4ec6-bc88-ad93b06a199d@z3g2000prz.googlegroups.com...
On Mar 14, 3:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> In todays textbooks is wrote that speed of light is frequency dependent
> (glass prism).
>> The same is in air (atmosphere). Why the heliosphere is different?

>The difference of which you speak is very small. The atmosphere is
about 0.27 % of the total distance between the earth and the moon.
0.27% of "very small" would be very, very small.

But heliosphere reach the last planet (at least).
S*

544. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 18:04:10 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <qt1258-2e4.ln1@mail.specsol.com>
Source record: 5545

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
> news:e0b95d4d-76c3-4ec6-bc88-ad93b06a199d@z3g2000prz.googlegroups.com...
> On Mar 14, 3:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>> In todays textbooks is wrote that speed of light is frequency dependent
>> (glass prism).
>>> The same is in air (atmosphere). Why the heliosphere is different?
>
>>The difference of which you speak is very small. The atmosphere is
> about 0.27 % of the total distance between the earth and the moon.
> 0.27% of "very small" would be very, very small.
>
> But heliosphere reach the last planet (at least).
> S*

Yeah, and what is the density, refractive index, permeability, and
permittivity of the helioshpere, you babbling moron?

--
Jim Pennino

Remove .spam.sux to reply.

545. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 20:04:23 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <illsc8kej1@news.jpl.nasa.gov>
Source record: 5546

tom wrote:
> On 3/12/2011 2:40 AM, Szczepan Bialek wrote:
>> Uzytkownik "tom"<news4792@taring.org> napisal w wiadomosci
>> news:4d7abca2$0$6700$8046368a@newsreader.iphouse.net...
>>> On 3/11/2011 3:29 AM, Szczepan Bialek wrote:
>>>>
>>>> The "full Moon" was on 2008/01/22. The distance was about 365 000 km.
>>>
>>> Quite incorrect, since perigee was 366435 km on the 19th. Your
>>> number is
>>> way too low for what it would have been on the 22nd.
>>>
>>> Do you ever check anything for correctness?
>>
>> I am asking if radio waves are faster than light.
>
> Radio waves and light are the same thing except we call them something
> different due to wavelength.
>
>> Now is possibility to measure the both between the Earth and Moon and
>> speed
>> of radio waves between Mars and Earth..
>> For centuries is possibility to measure speed of light in space between
>> Jovian and Earth.
>>
>> Probably the Moon is to close to the Earth to pick up the difference.
>> Is it
>> enough at full correctness?
>> S*
>>
>>
>
> Tests of earth to moon to earth, earth to venus to earth all give the
> same speed of light regardless of frequency used.
>

Not precisely true. Interplanetary space slightly dispersive. Emphasis
on *slightly*.

Kenelm Philip predicted a difference back in 1957

Modern estimates for electron density in interplanetary space of 1E6 to
1E10 per cubic meter.

dTau = e^2*Ne*L/(2*pi*m*c) * (1/f1^2 - 1/f2^2)

e= charge on an electron 1E-18 Coulomb
m = mass of an electron at rest (9.11E-31 kg)
c = velocity of light (3E8 m/s)
L = propagation distance
Ne = electron density (pick a number between 1E6 and 1E10)

f1 and f2 are the frequencies (in Hz) (assumed relatively closely spaced)

To bound the magnitudes.. for 1000 light year and 1 and 2 GHz, the
dispersion is about 1 nanosecond.

-- if you're interested in optical as opposed to RF
http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF

546. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 20:08:12 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <illsjdkeu1@news.jpl.nasa.gov>
Source record: 5547

> Speed of light in space is known thanks Roemer.s method. Now are radio
> transmitters on the Mars and is possibility to use the Roemer's method for
> radio waves. NASA know the results. Are thy pulished?
>

Of course, they're published. Widely. I would check Journal of
Geophysical Research or similar publications.

As a practical matter, precise measurements of the time of flight
to/from a spacecraft is used to figure out where the spacecraft is and
its radial velocity.

Typical range accuracy is on the order of a few meters, velocities good
to a few cm/s, for something at the orbit of Neptune or Uranus.

Precise doppler measurements are used for radio science experiments,
e.g. to determine the internal structure of a planet or moon by
precisely measuring the orbit of a satellite. A typical performance for
such a measurement is 1 part in 1E15 over 1000 seconds at 32 GHz or 8GHz.

547. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 20:14:43 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <illsvkkkc1@news.jpl.nasa.gov>
Source record: 5548

jimp@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>> "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
>> news:e0b95d4d-76c3-4ec6-bc88-ad93b06a199d@z3g2000prz.googlegroups.com...
>> On Mar 14, 3:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>> In todays textbooks is wrote that speed of light is frequency dependent
>>> (glass prism).
>>>> The same is in air (atmosphere). Why the heliosphere is different?
>>> The difference of which you speak is very small. The atmosphere is
>> about 0.27 % of the total distance between the earth and the moon.
>> 0.27% of "very small" would be very, very small.
>>
>> But heliosphere reach the last planet (at least).
>> S*
>
> Yeah, and what is the density, refractive index, permeability, and
> permittivity of the helioshpere, you babbling moron?
>
>

Hmm, without getting into the ad hominem attacks here..

This kind of thing is well documented. I'd start by downloading the "Plasma Physics Handbook" from the Naval Research Lab. It has a nice summary of all the relevant equations and typical values.

A quick google for "interplanetary EM propagation dispersion" turns up plenty of references.

Again, though, it's very, very small (parts in 1E12 kind of small).. but big enough to be of interest to scientists who measure such things. It would be the ambitious amateur who could make a measurement of the required precision, but it is doable. Several spacecraft transmit simultaneous tones generated from a common high quality reference. Working out and removing the effects of the Earth's ionosphere and atmosphere are probably the biggest challenge.

548. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 21:09:59 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <7qc258-vq5.ln1@mail.specsol.com>
Source record: 5549

Jim Lux <james.p.lux@jpl.nasa.gov> wrote:
> jimp@specsol.spam.sux.com wrote:
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>> "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
>>> news:e0b95d4d-76c3-4ec6-bc88-ad93b06a199d@z3g2000prz.googlegroups.com...
>>> On Mar 14, 3:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>>> In todays textbooks is wrote that speed of light is frequency dependent
>>>> (glass prism).
>>>>> The same is in air (atmosphere). Why the heliosphere is different?
>>>> The difference of which you speak is very small. The atmosphere is
>>> about 0.27 % of the total distance between the earth and the moon.
>>> 0.27% of "very small" would be very, very small.
>>>
>>> But heliosphere reach the last planet (at least).
>>> S*
>>
>> Yeah, and what is the density, refractive index, permeability, and
>> permittivity of the helioshpere, you babbling moron?
>>
>>
>
> Hmm, without getting into the ad hominem attacks here..
>
> This kind of thing is well documented. I'd start by downloading the
> "Plasma Physics Handbook" from the Naval Research Lab. It has a nice
> summary of all the relevant equations and typical values.
>
> A quick google for "interplanetary EM propagation dispersion" turns up
> plenty of references.
>
> Again, though, it's very, very small (parts in 1E12 kind of small).. but
> big enough to be of interest to scientists who measure such things. It
> would be the ambitious amateur who could make a measurement of the
> required precision, but it is doable. Several spacecraft transmit
> simultaneous tones generated from a common high quality reference.
> Working out and removing the effects of the Earth's ionosphere and
> atmosphere are probably the biggest challenge.

Yeah, you know that and I know that, but the babbling moron that continues
to post his mindless gibberish refererenced to something written 150 years
ago doesn't know that.

--
Jim Pennino

Remove .spam.sux to reply.

549. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-14 23:47:14 UTC
From: tom <news4792@taring.org>
Message-ID: <4d7ea901$0$87583$8046368a@newsreader.iphouse.net>
Source record: 5550

On 3/14/2011 3:04 PM, Jim Lux wrote:
>
> Not precisely true. Interplanetary space slightly dispersive. Emphasis
> on *slightly*.
>
> Kenelm Philip predicted a difference back in 1957
>
> Modern estimates for electron density in interplanetary space of 1E6 to
> 1E10 per cubic meter.
>
> dTau = e^2*Ne*L/(2*pi*m*c) * (1/f1^2 - 1/f2^2)
>
> e= charge on an electron 1E-18 Coulomb
> m = mass of an electron at rest (9.11E-31 kg)
> c = velocity of light (3E8 m/s)
> L = propagation distance
> Ne = electron density (pick a number between 1E6 and 1E10)
>
> f1 and f2 are the frequencies (in Hz) (assumed relatively closely spaced)
>
> To bound the magnitudes.. for 1000 light year and 1 and 2 GHz, the
> dispersion is about 1 nanosecond.
>
>
> -- if you're interested in optical as opposed to RF
> http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF

For his idea of how things work I was plenty close enough. He's
thinking in digits of percent.

tom
K0TAR

550. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 00:21:11 UTC
From: tom <news4792@taring.org>
Message-ID: <4d7eb0f6$0$6699$8046368a@newsreader.iphouse.net>
Source record: 5451

On 3/14/2011 3:04 PM, Jim Lux wrote:
>
> Not precisely true. Interplanetary space slightly dispersive. Emphasis
> on *slightly*.
>
> Kenelm Philip predicted a difference back in 1957
>
> Modern estimates for electron density in interplanetary space of 1E6 to
> 1E10 per cubic meter.
>
> dTau = e^2*Ne*L/(2*pi*m*c) * (1/f1^2 - 1/f2^2)
>
> e= charge on an electron 1E-18 Coulomb
> m = mass of an electron at rest (9.11E-31 kg)
> c = velocity of light (3E8 m/s)
> L = propagation distance
> Ne = electron density (pick a number between 1E6 and 1E10)
>
> f1 and f2 are the frequencies (in Hz) (assumed relatively closely spaced)
>
> To bound the magnitudes.. for 1000 light year and 1 and 2 GHz, the
> dispersion is about 1 nanosecond.
>
>
> -- if you're interested in optical as opposed to RF
> http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF

Thanks for the link. Very nice, concise. Actually wasted some paper on it.

And I doubt sb has a hint of a clue concerning it. He'll probably think
it supports his twisted view of things.

I used to think he was a troll. I am now convinced that I was incorrect
and that the ad hominum attacks are probably deserved. Sometimes they
are the correct approach and produce results. See politics (both sides)
and national news (all) for examples.

tom
K0TAR

551. SUPER SEXY VIDEOS MASALA HOT PHOTOS NET USERS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 05:26:30 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <763c0e8d-1fdb-4443-aba4-c147eee0acfb@j35g2000prb.googlegroups.com>
Source record: 5452

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
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http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

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hollywood hot
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552. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 08:53:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7f2919$0$2492$65785112@news.neostrada.pl>
Source record: 5453

Uzytkownik "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:illsjdkeu1@news.jpl.nasa.gov...
>> Speed of light in space is known thanks Roemer.s method. Now are radio
>> transmitters on the Mars and is possibility to use the Roemer's method
>> for radio waves. NASA know the results. Are thy pulished?
>>
>
> Of course, they're published. Widely. I would check Journal of
> Geophysical Research or similar publications.
>
> As a practical matter, precise measurements of the time of flight to/from
> a spacecraft is used to figure out where the spacecraft is and its radial
> velocity.
>
> Typical range accuracy is on the order of a few meters, velocities good to
> a few cm/s, for something at the orbit of Neptune or Uranus.
>
> Precise doppler measurements are used for radio science experiments, e.g.
> to determine the internal structure of a planet or moon by precisely
> measuring the orbit of a satellite. A typical performance for such a
> measurement is 1 part in 1E15 over 1000 seconds at 32 GHz or 8GHz.

Roemer's method is the one way measurement. See:
http://www.mathpages.com/home/kmath203/kmath203.htm

We know where Jovian is so the one way measurement is possible. With
spacecraft it is impossible.
Lately the one way is possible with the Mars. But independently for radio
waves and light. Mars has the satellite and radio transmitter.

In next your post is Table 1 and Fig 2. There are electrons density and
temperature. Speed of waves is temperature dependent.

Roemer's method is able to measure the speed of light in different region of
Solar system. Before me Maxwell was interested in this: "Incidentally,
Maxwell once suggested that Roemer's method could be used to test for the
isotropy of light speed, i.e., to test whether the speed of light is the
same in all directions. Roemer's method can be regarded as a means of
measuring the speed of light in the direction from Jupiter to the Earth.
Jupiter has an orbital period of about 12 years, so if we use Roemer's
method to evaluate the speed of light several times over a 12 year period,
we will be evaluating the speed in all possible directions (in the plane of
the ecliptic). "

It is interesting that Roemer has measured 220 000 km/s.
S*

553. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 10:02:58 UTC
From: david <none@nospam.com>
Message-ID: <ilndgidjs1@news.eternal-september.org>
Source record: 5454

On Tue, 15 Mar 2011 09:53:41 +0100, Szczepan Bialek rearranged some electrons to say:

>
> It is interesting that Roemer has measured 220 000 km/s. S*

Why is that interesting? He was wrong.

554. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 14:34:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0276c6a9-f1a4-4d54-ba13-f0079475620a@y31g2000prd.googlegroups.com>
Source record: 5455

Velocity is delta-length divided by delta-time. The length of a meter
depends upon the velocity and orientation of the meter stick. The
length of a second depends upon the velocity of the clock. Are we sure
that the velocity of light is a *universal* constant or is it just a
conceptual stake in the ground to try to keep everything in the
universe from being relative to something else?
--
73, Cecil, w5dxp.com

555. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 17:02:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d7f9bb0$0$2501$65785112@news.neostrada.pl>
Source record: 5456

" <none@nospam.com> napisa&#65533; w wiadomo&#65533;ci
news:ilndgidjs1@news.eternal-september.org...
> On Tue, 15 Mar 2011 09:53:41 +0100, Szczepan Bialek rearranged some
> electrons to say:
>
>>
>> It is interesting that Roemer has measured 220 000 km/s. S*
>
> Why is that interesting? He was wrong.

From the same data Newton calculated 310 000 km/s. But it was for the Earth
the Sun (the hottest region).
Roemer's method measures speeds of light in different regions of the Solar
System.

Cecil wrote: "Are we sure that the velocity of light is a ".

"c" is the *universal* constant in EM (calculating factors between different
units).

"velocity of light" is the medium and temperature dependent.
S*

556. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 17:25:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4D7FA106.2010206@jpl.nasa.gov>
Source record: 5457

Szczepan Bialek wrote:
> Uzytkownik "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:illsjdkeu1@news.jpl.nasa.gov...
>>> Speed of light in space is known thanks Roemer.s method. Now are radio
>>> transmitters on the Mars and is possibility to use the Roemer's method
>>> for radio waves. NASA know the results. Are thy pulished?
>>>
>> Of course, they're published. Widely. I would check Journal of
>> Geophysical Research or similar publications.
>>
>> As a practical matter, precise measurements of the time of flight to/from
>> a spacecraft is used to figure out where the spacecraft is and its radial
>> velocity.
>>
>> Typical range accuracy is on the order of a few meters, velocities good to
>> a few cm/s, for something at the orbit of Neptune or Uranus.
>>
>> Precise doppler measurements are used for radio science experiments, e.g.
>> to determine the internal structure of a planet or moon by precisely
>> measuring the orbit of a satellite. A typical performance for such a
>> measurement is 1 part in 1E15 over 1000 seconds at 32 GHz or 8GHz.
>
> Roemer's method is the one way measurement. See:
> http://www.mathpages.com/home/kmath203/kmath203.htm
>
> We know where Jovian is so the one way measurement is possible. With
> spacecraft it is impossible.

not true. We do one way measurements from spacecraft all the time. A
high quality oscillator (aka USO)is used to generate a set of phase
coherent signals at different frequencies.

Look at PN ranging or Sequential Ranging.

> Lately the one way is possible with the Mars. But independently for radio
> waves and light. Mars has the satellite and radio transmitter.

As do Jupiter, Saturn, and outer planets

>

557. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-15 18:59:21 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <9hp458-ise.ln1@mail.specsol.com>
Source record: 5458

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> " <none@nospam.com> napisa? w wiadomo?ci
> news:ilndgidjs1@news.eternal-september.org...
>> On Tue, 15 Mar 2011 09:53:41 +0100, Szczepan Bialek rearranged some
>> electrons to say:
>>
>>>
>>> It is interesting that Roemer has measured 220 000 km/s. S*
>>
>> Why is that interesting? He was wrong.
>
> From the same data Newton calculated 310 000 km/s. But it was for the Earth
> the Sun (the hottest region).

Newton died almost 300 years ago and we have much better data since then, you
babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.

558. Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 02:33:25 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ilp7hn$hu6$4@news.eternal-september.org>
Source record: 5459

Mike -

What are you working on now? Your projects interest me.

Cheers,
John

559. Re: Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 02:48:44 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <hyVfp.714608$Bh.626770@en-nntp-12.dc1.easynews.com>
Source record: 5460

"K7ITM" <k7itm@msn.com> wrote in message
news:c347afbc-cf72-4d93-894a-66655c68ebc6@q12g2000prb.googlegroups.com...
> If
> you build a filter according to a design that either the AADE progarm
> or Elsie gives you and it doesn't perform like you think it should,
> don't be too quick to blame the program!

My experience is basically...

-- The behavior as-built will almost always be at lower frequencies than what you designed for, due to the stray capacitances and inductances the simple filters don't take into consideration. Similarly, bandpass filters will usually end up narrower than you intended.
-- For bandpass filters, it seems just about as common that coupling between elements, approaching self-resonant frequencies, and parasitics can help just as often as they can hurt insofar as shape factor goes.
-- Taking a scrap piece of PCB material (or some other thin metal sheet-type material) and placing it midway between pairs of inductors can give you some qualitative idea as to how much coupling there is. (...and normally you want to place consecutive inductors at right angles to one another... or perhaps try the "magic" 54.7 degree angle like the old neutrodyne receivers used...)

If you need quite sophisticated filter designs, Nuhertz (aka, Jeff Kahler, Inc. -- a man who can probably quote large portions of Zverev's book...) has their Filter Solutions program, which is quite good... although only a very basic version of it is free (apparently Jeff wants to eat every now and again, and not just at Taco Bell).

---Joel "Yo quiero Taco Bell!"

560. Need Diamond X50a ground radial dimension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 06:22:52 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <9dl0o6h0c7m5lp547ur6jfc0u2lfan3410@4ax.com>
Source record: 5461

Another day in antenna hell. This time, I needed a 440Mhz antenna for
a temporary repeater installation. My last remaining antenna a rather
broken Diamond X50a. The previous owner leaned the antenna against a
wall, and then backed his car into it, breaking the fiberglass radome
and bending the guts. I managed to unmangle the antenna and epoxy the
radome, but somewhere in the shuffle, the ground radials disappeared.
Duz anyone have an X50a handy that can measure the length of the
ground radials (from the aluminum base casting to the end)? The
current random length welding rods (with toothpicks jammed into the
holes) are not going to last.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

561. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 08:07:14 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d806fb7$0$2488$65785112@news.neostrada.pl>
Source record: 5462

U?ytkownik <jimp@specsol.spam.sux.com> napisa? w wiadomo?ci
news:9hp458-ise.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>> " <none@nospam.com> napisa? w wiadomo?ci
>> news:ilndgidjs1@news.eternal-september.org...
>>> On Tue, 15 Mar 2011 09:53:41 +0100, Szczepan Bialek rearranged some
>>> electrons to say:
>>>
>>>>
>>>> It is interesting that Roemer has measured 220 000 km/s. S*
>>>
>>> Why is that interesting? He was wrong.
>>
>> From the same data Newton calculated 310 000 km/s. But it was for the
>> Earth
>> the Sun (the hottest region).
>
> Newton died almost 300 years ago and we have much better data since then,
> you
> babbling idiot.

You have? Where I can find them?
S*
>
>
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

562. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 09:59:28 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d808a05$0$2451$65785112@news.neostrada.pl>
Source record: 5463

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:4D7FA106.2010206@jpl.nasa.gov...
> Szczepan Bialek wrote:
>> Uzytkownik "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>> news:illsjdkeu1@news.jpl.nasa.gov...
>>>> Speed of light in space is known thanks Roemer.s method. Now are radio
>>>> transmitters on the Mars and is possibility to use the Roemer's method
>>>> for radio waves. NASA know the results. Are thy pulished?
>>>>
>>> Of course, they're published. Widely. I would check Journal of
>>> Geophysical Research or similar publications.
>>>
>>> As a practical matter, precise measurements of the time of flight
>>> to/from a spacecraft is used to figure out where the spacecraft is and
>>> its radial velocity.
>>>
>>> Typical range accuracy is on the order of a few meters, velocities good
>>> to a few cm/s, for something at the orbit of Neptune or Uranus.
>>>
>>> Precise doppler measurements are used for radio science experiments,
>>> e.g. to determine the internal structure of a planet or moon by
>>> precisely measuring the orbit of a satellite. A typical performance for
>>> such a measurement is 1 part in 1E15 over 1000 seconds at 32 GHz or
>>> 8GHz.
>>
>> Roemer's method is the one way measurement. See:
>> http://www.mathpages.com/home/kmath203/kmath203.htm
>>
>> We know where Jovian is so the one way measurement is possible. With
>> spacecraft it is impossible.
>
> not true. We do one way measurements from spacecraft all the time. A high
> quality oscillator (aka USO)is used to generate a set of phase coherent
> signals at different frequencies.
>
> Look at PN ranging or Sequential Ranging.

But the Mars is the best. Are available data for the Mars?
>
>> Lately the one way is possible with the Mars. But independently for radio
>> waves and light. Mars has the satellite and radio transmitter.
>
> As do Jupiter, Saturn, and outer planets

"The Rocky Planets are:
a.. Mercury
b.. Venus
c.. Earth
d.. Mars

The Gaseous Planets are:
a.. Jupiter
b.. Saturn
c.. Uranus
d.. Neptune"
S*

563. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 15:37:06 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <222758-hen.ln1@mail.specsol.com>
Source record: 5464

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> U?ytkownik <jimp@specsol.spam.sux.com> napisa? w wiadomo?ci
> news:9hp458-ise.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>> " <none@nospam.com> napisa? w wiadomo?ci
>>> news:ilndgi$djs$1@news.eternal-september.org...
>>>> On Tue, 15 Mar 2011 09:53:41 +0100, Szczepan Bialek rearranged some
>>>> electrons to say:
>>>>
>>>>>
>>>>> It is interesting that Roemer has measured 220 000 km/s. S*
>>>>
>>>> Why is that interesting? He was wrong.
>>>
>>> From the same data Newton calculated 310 000 km/s. But it was for the
>>> Earth
>>> the Sun (the hottest region).
>>
>> Newton died almost 300 years ago and we have much better data since then,
>> you
>> babbling idiot.
>
> You have? Where I can find them?
> S*

In stuff written recently, you babbling moron.

--
Jim Pennino

Remove .spam.sux to reply.
```

564. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 15:38:52 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <c52758-hen.ln1@mail.specsol.com>
Source record: 5465

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:4D7FA106.2010206@jpl.nasa.gov...
>> Szczepan Bialek wrote:
>>> Uzytkownik "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>>> news:illsjd$keu$1@news.jpl.nasa.gov...
>>>>> Speed of light in space is known thanks Roemer.s method. Now are radio
>>>>> transmitters on the Mars and is possibility to use the Roemer's method
>>>>> for radio waves. NASA know the results. Are thy pulished?
>>>>>
>>>> Of course, they're published. Widely. I would check Journal of
>>>> Geophysical Research or similar publications.
>>>>
>>>> As a practical matter, precise measurements of the time of flight
>>>> to/from a spacecraft is used to figure out where the spacecraft is and
>>>> its radial velocity.
>>>>
>>>> Typical range accuracy is on the order of a few meters, velocities good
>>>> to a few cm/s, for something at the orbit of Neptune or Uranus.
>>>>
>>>> Precise doppler measurements are used for radio science experiments,
>>>> e.g. to determine the internal structure of a planet or moon by
>>>> precisely measuring the orbit of a satellite. A typical performance for
>>>> such a measurement is 1 part in 1E15 over 1000 seconds at 32 GHz or
>>>> 8GHz.
>>>
>>> Roemer's method is the one way measurement. See:
>>> http://www.mathpages.com/home/kmath203/kmath203.htm
>>>
>>> We know where Jovian is so the one way measurement is possible. With
>>> spacecraft it is impossible.
>>
>> not true. We do one way measurements from spacecraft all the time. A high
>> quality oscillator (aka USO)is used to generate a set of phase coherent
>> signals at different frequencies.
>>
>> Look at PN ranging or Sequential Ranging.
>
> But the Mars is the best. Are available data for the Mars?
>>
>>> Lately the one way is possible with the Mars. But independently for radio
>>> waves and light. Mars has the satellite and radio transmitter.
>>
```

>> As do Jupiter, Saturn, and outer planets
>
> "The Rocky Planets are:
> a.. Mercury
> b.. Venus
> c.. Earth
> d.. Mars
>
>
> The Gaseous Planets are:
> a.. Jupiter
> b.. Saturn
> c.. Uranus
> d.. Neptune"
> S*

The babbling idiot is:
a.. Szczepan Bialek

--
Jim Pennino

Remove .spam.sux to reply.

565. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-16 18:03:58 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ilqu2f$9ha$1@news.jpl.nasa.gov>
Source record: 5466

```
Szczepan Bialek wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:4D7FA106.2010206@jpl.nasa.gov...
>> Szczepan Bialek wrote:
>>> Uzytkownik "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>>> news:illsjd$keu$1@news.jpl.nasa.gov...
>>>>> Speed of light in space is known thanks Roemer.s method. Now are radio
>>>>> transmitters on the Mars and is possibility to use the Roemer's method
>>>>> for radio waves. NASA know the results. Are thy pulished?
>>>>>
>>>> Of course, they're published. Widely. I would check Journal of
>>>> Geophysical Research or similar publications.
>>>>
>>>> As a practical matter, precise measurements of the time of flight
>>>> to/from a spacecraft is used to figure out where the spacecraft is and
>>>> its radial velocity.
>>>>
>>>> Typical range accuracy is on the order of a few meters, velocities good
>>>> to a few cm/s, for something at the orbit of Neptune or Uranus.
>>>>
>>>> Precise doppler measurements are used for radio science experiments,
>>>> e.g. to determine the internal structure of a planet or moon by
>>>> precisely measuring the orbit of a satellite. A typical performance for
>>>> such a measurement is 1 part in 1E15 over 1000 seconds at 32 GHz or
>>>> 8GHz.
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>>> http://www.mathpages.com/home/kmath203/kmath203.htm
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>>> We know where Jovian is so the one way measurement is possible. With
>>> spacecraft it is impossible.
>> not true. We do one way measurements from spacecraft all the time. A high
>> quality oscillator (aka USO)is used to generate a set of phase coherent
>> signals at different frequencies.
>>
>> Look at PN ranging or Sequential Ranging.
>
> But the Mars is the best. Are available data for the Mars?

I don't know why Mars would be the best..

But you might start with googling "ranging Mars radiometric" or
something like that.
Or the usual tracking down the papers thing starting with one that talks
about it, and will have references.
http://seismo.berkeley.edu/~manga/folkner.pdf might give a start.
```

One of the footnotes mentions Viking data at S-band.

Journal of Geophysical Research (aka JGR) is where a lot of this seems
to show up.

You could search for works by authors who do this kind of thing, too.
Folkner, Asmar, Oudrhiri, Iess, Armstrong are all worth searching for.
I'd do a search for the author name AND "ranging"

For more "raw data" try the NASA Planetary Data System archive
http://pds.nasa.gov/

You're going to be on your own to find the relevant data files. Try
"radio science" as a search term.
>

566. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-17 08:56:37 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d81ccca$0$2449$65785112@news.neostrada.pl>
Source record: 5467

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:ilqu2f$9ha$1@news.jpl.nasa.gov...
> Szczepan Bialek wrote:
>> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci

>>>>>> Speed of light in space is known thanks Roemer.s method. Now are
>>>>>> radio transmitters on the Mars and is possibility to use the Roemer's
>>>>>> method for radio waves. NASA know the results. Are they published?
>>>>>>
>>>>> Of course, they're published. Widely. I would check Journal of
>>>>> Geophysical Research or similar publications.
>>>>>
>>>>> As a practical matter, precise measurements of the time of flight
>>>>> to/from a spacecraft is used to figure out where the spacecraft is and
>>>>> its radial velocity.
>>>>>
>>>>> Typical range accuracy is on the order of a few meters, velocities
>>>>> good to a few cm/s, for something at the orbit of Neptune or Uranus.
>>>>>
>>>>> Precise doppler measurements are used for radio science experiments,
>>>>> e.g. to determine the internal structure of a planet or moon by
>>>>> precisely measuring the orbit of a satellite. A typical performance
>>>>> for such a measurement is 1 part in 1E15 over 1000 seconds at 32 GHz
>>>>> or 8GHz.
>>>> Roemer's method is the one way measurement. See:
>>>> http://www.mathpages.com/home/kmath203/kmath203.htm
>>>>
>>>> We know where Jovian is so the one way measurement is possible. With
>>>> spacecraft it is impossible.

>>> not true. We do one way measurements from spacecraft all the time. A
>>> high quality oscillator (aka USO)is used to generate a set of phase
>>> coherent signals at different frequencies.
>>>
>>> Look at PN ranging or Sequential Ranging.
>>
>> But the Mars is the best. Are available data for the Mars?
>
> I don't know why Mars would be the best..

Probably is possible to measure the optic signal from the Mars satellite. If
yes, we have the direct comparison light - radio waves.
Radio transmitter can be installed only on the Mars.
>
> But you might start with googling "ranging Mars radiometric" or something

> like that.
> Or the usual tracking down the papers thing starting with one that talks
> about it, and will have references.
> http://seismo.berkeley.edu/~manga/folkner.pdf might give a start.
> One of the footnotes mentions Viking data at S-band.
>
> Journal of Geophysical Research (aka JGR) is where a lot of this seems to
> show up.
>
> You could search for works by authors who do this kind of thing, too.
> Folkner, Asmar, Oudrhiri, Iess, Armstrong are all worth searching for. I'd
> do a search for the author name AND "ranging"
>
>
> For more "raw data" try the NASA Planetary Data System archive
> http://pds.nasa.gov/
>
> You're going to be on your own to find the relevant data files. Try "radio
> science" as a search term.

For me will be enough your steatment if speed of light and radio waves were measured in different regions of the Solar System.
Katz: http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF
wrote that the electron temperatures are from 10^4 to 10^6. Look at Fig 2.
Place the Mars instead a spacecraft. Between (a) and (c) should be some differences.

You wrote: " NASA knows the results. Are they published? Of course, they're published. Widely."

What the conclusion are?
I do not need the quantitative data.
S*

567. Re: Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-17 14:27:29 UTC
From: amdx <amdx@knology.net>
Message-ID: <50226$4d8218ed$18ec6dd7$6860@KNOLOGY.NET>
Source record: 5468

"John - KD5YI" <sophi.2@invalid.org> wrote in message
news:ilp7hn$hu6$4@news.eternal-september.org...
> Mike -
>
> What are you working on now? Your projects interest me.
>
> Cheers,
> John

I'm sorry to say that working for a living gets in the way, of my important
to me work :-)
Add to that a few household projects, such as building a fence around one
side of the house,
and some other minor repairs, I haven't had much time.
I'm still on a quest for a high Q inductor of about 240uh. I hope to hit
2000. That involves
building a new polystyrene frame and two or three bundles of 660/46 litz
wire.
I still want to finish the high input impedance amp I had questions
about. I have three PCB's
with the basic amp so one will be with a 0,3pf input cap to 20 Meg and a fet
gate. Another
will be a bootstraped input which as I understand, should be better. The
third is unknown,
If I get the bootstrap working well, I may finish the third and try to sell
it on a crystal radio group.
Summer is the busy time for my business, so I won't get much important
work :-) done for a while.

I have a flag antenna up in my yard.
http://i395.photobucket.com/albums/pp37/Qmavam/P1010128-1.jpg

(Basic Flag antenna info, if your not aware,
http://www.hard-core-dx.com/nordicdx/antenna/loop/flag/index.html)

When I built the antenna, the idea was fairly new and I figured there would
be some changes to the design,
with that in mind I built it so I could tilt the crossbeam for easy access
to the matching transformer and
termination resistor. This assembly allows me to tilt the crossbeam.
http://i395.photobucket.com/albums/pp37/Qmavam/P1010135.jpg
By pulling on a rope, the pin slides and allows the tilt.
The mast is also on a rotor.
http://i395.photobucket.com/albums/pp37/Qmavam/P1010129.jpg

There have been a few improvements, such as the Waller,
http://www.n4is.com/waller/BIG_DUAL_LOOP.html
But I have made any changes to mine.
Time to get to work.
Later, Mike
PS. have ya seen my electric gokart? :-)

568. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-17 19:01:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iltlpp$5uf$1@news.jpl.nasa.gov>
Source record: 5469

Szczepan Bialek wrote:
>
>>> But the Mars is the best. Are available data for the Mars?
>> I don't know why Mars would be the best..
>
> Probably is possible to measure the optic signal from the Mars satellite. If
> yes, we have the direct comparison light - radio waves.

I don't think that there is any way to "see" a satellite at Mars.
Perhaps if one did some sort of Moon/mars occultation?

> Radio transmitter can be installed only on the Mars.

There are precision transmitters suitable for this kind of measurement
at many places in the Solar System.
>> You're going to be on your own to find the relevant data files. Try "radio
>> science" as a search term.
>

> For me will be enough your steatment if speed of light and radio waves were
> measured in different regions of the Solar System.
> Katz: http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF
> wrote that the electron temperatures are from 10^4 to 10^6. Look at Fig 2.
> Place the Mars instead a spacecraft. Between (a) and (c) should be some
> differences.
>
> You wrote: " NASA knows the results. Are they published? Of course, they're
> published. Widely."
>
> What the conclusion are?
> I do not need the quantitative data.

I'll assert that propagation through interplanetary space is moderately
well understood and matches all modern models of electromagnetic behavior.

569. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-17 19:52:28 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iltops$703$1@news.jpl.nasa.gov>
Source record: 5470

Jim Lux wrote:
> Szczepan Bialek wrote:
>>
>>>> But the Mars is the best. Are available data for the Mars?
>>> I don't know why Mars would be the best..
>>
>> Probably is possible to measure the optic signal from the Mars
>> satellite. If yes, we have the direct comparison light - radio waves.
>
> I don't think that there is any way to "see" a satellite at Mars.
> Perhaps if one did some sort of Moon/mars occultation?
>
>> Radio transmitter can be installed only on the Mars.
>
> There are precision transmitters suitable for this kind of measurement
> at many places in the Solar System.
>>> You're going to be on your own to find the relevant data files. Try
>>> "radio science" as a search term.
>>
>
>> For me will be enough your steatment if speed of light and radio waves
>> were measured in different regions of the Solar System.
>> Katz: http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF
>> wrote that the electron temperatures are from 10^4 to 10^6. Look at
>> Fig 2. Place the Mars instead a spacecraft. Between (a) and (c) should
>> be some differences.
>>

Are you asking if the calculations in Katz's paper for the two paths
have been experimentally verified? I don't know..
Certainly he predicts that the temporal dispersion is going to be <0.1ps
for near IR, which is, shall we say, challenging to measure.

>> You wrote: " NASA knows the results. Are they published? Of course,
>> they're published. Widely."
>>
>> What the conclusion are?
>> I do not need the quantitative data.
>
> I'll assert that propagation through interplanetary space is moderately
> well understood and matches all modern models of electromagnetic behavior.

570. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-17 20:45:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0ns4o6571gsspsa5v1g3hkuhvh11kdps43@4ax.com>
Source record: 5471

On Thu, 17 Mar 2011 12:52:28 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Certainly he predicts that the temporal dispersion is going to be <0.1ps
>for near IR, which is, shall we say, challenging to measure.

Why?

73's
Richard Clark, KB7QHC

571. Re: Band Pass Filters.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-17 20:59:23 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <624e6e47-760a-4090-ad1b-9ffacaeb0731@q12g2000prb.googlegroups.com>
Source record: 5472

On Mar 15, 7:48 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
wrote:
> "K7ITM" <k7...@msn.com> wrote in message
>
> news:c347afbc-cf72-4d93-894a-66655c68ebc6@q12g2000prb.googlegroups.com...
>
> > If
> > you build a filter according to a design that either the AADE progarm
> > or Elsie gives you and it doesn't perform like you think it should,
> > don't be too quick to blame the program!
>
> My experience is basically...
>
> -- The behavior as-built will almost always be at lower frequencies than what
> you designed for, due to the stray capacitances and inductances the simple
> filters don't take into consideration. Similarly, bandpass filters will
> usually end up narrower than you intended.

I'm glad Joel said "almost always." Be aware that shielding a
solenoid coil will drop its inductance (and its Qu), and thus raise
the resonance. So if you've designed a filter for a frequency well
below the self-resonances of the coils, and measure the coil
inductances without shielding, you may well find that the resonances
are higher than you expect when you put the resonators into shields.

Further to what Joel said: at least in Spice, you can add whatever
parasitic elements you want, and that can be valuable to understanding
why your real filter isn't behaving like the simple model said it
should. Recent versions of Elsie include the ability to write an
LTSpice output that opens into a nice schematic in the LTSpice
program, and lets you then play with modifying coil Q and adding
parasitic elements (including inductor-to-inductor coupling) to your
heart's content.

I agree that the NuHertz filter design software is very good, if
you're willing to pay for the full version. You can also get very
good filter design help in Agilent's ADS software, but they you'd
really have to live on rice and peanut butter for a looonnngg
time. ;-)

Cheers,
Tom

572. Re: Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-17 21:39:50 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iltv3bnve1@news.eternal-september.org>
Source record: 5473

On 3/17/2011 9:27 AM, amdx wrote:
> "John - KD5YI"<sophi.2@invalid.org> wrote in message
> news:ilp7hn$hu6$4@news.eternal-september.org...
>> Mike -
>>
>> What are you working on now? Your projects interest me.
>>
>> Cheers,
>> John
>
> I'm sorry to say that working for a living gets in the way, of my important
> to me work :-)
> Add to that a few household projects, such as building a fence around one
> side of the house,
> and some other minor repairs, I haven't had much time.

That's understandable. Well, you can look forward to retirement, then.

> I'm still on a quest for a high Q inductor of about 240uh. I hope to hit
> 2000. That involves
> building a new polystyrene frame and two or three bundles of 660/46 litz
> wire.

I'm interested in not only whether you achieve your goal, but your
trials and tribulations along the way. Please keep us informed as your
time permits.

> I still want to finish the high input impedance amp I had questions
> about. I have three PCB's
> with the basic amp so one will be with a 0,3pf input cap to 20 Meg and a fet
> gate. Another
> will be a bootstraped input which as I understand, should be better. The
> third is unknown,
> If I get the bootstrap working well, I may finish the third and try to sell
> it on a crystal radio group.

I'm also very interested in the amp as an aid to achieving your goal.
For some reason, I'm a bit leery about it. However, your progressive
story might change that.

> Summer is the busy time for my business, so I won't get much important
> work :-) done for a while.
>
> I have a flag antenna up in my yard.
> http://i395.photobucket.com/albums/pp37/Qmavam/P1010128-1.jpg
>

> (Basic Flag antenna info, if your not aware,
> http://www.hard-core-dx.com/nordicdx/antenna/loop/flag/index.html)

Is that a metal mast and how close is the bottom antenna wire? It looks
as if the antenna wire is insulated. Yes?

> When I built the antenna, the idea was fairly new and I figured there would
> be some changes to the design,
> with that in mind I built it so I could tilt the crossbeam for easy access
> to the matching transformer and
> termination resistor. This assembly allows me to tilt the crossbeam.
> http://i395.photobucket.com/albums/pp37/Qmavam/P1010135.jpg

Interesting. You seem to be good at mechanical stuff. I am lousy.

> By pulling on a rope, the pin slides and allows the tilt.
> The mast is also on a rotor.
> http://i395.photobucket.com/albums/pp37/Qmavam/P1010129.jpg
>
> There have been a few improvements, such as the Waller,
> http://www.n4is.com/waller/BIG_DUAL_LOOP.html
> But I have made any changes to mine.
> Time to get to work.
> Later, Mike
> PS. have ya seen my electric gokart? :-)

No. Aren't all go carts electric?

Cheers,
John

573. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 00:19:09 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ilu8dt$br0$1@news.jpl.nasa.gov>
Source record: 5474

Richard Clark wrote:
> On Thu, 17 Mar 2011 12:52:28 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> Certainly he predicts that the temporal dispersion is going to be <0.1ps
>> for near IR, which is, shall we say, challenging to measure.
>
> Why?
>

measuring things to tenths of a picosecond, repeatably, can be tricky..
That's like measuring the phase difference between two 10 GHz signals
to 0.3 degrees. Or, another way to look at it is 1 picolightsecond is
about a third of a millimeter.

You're looking at
a) figuring out how to generate two signals at near IR that has a
frequency offset that can be accurately controlled. Probably some sort
of heterodyne mixing scheme would be easiest.
b) sending those two signals over the optical path through
interplanetary space.
c) recovering the signals, measuring the propagation time variation
(say, by looking at the phase difference between the modulation
signals), and then removing atmospheric effects.
d) it's probably going to be a pretty weak signal, so you'll need to
average. That means your measurement system has to be picosecond stable
over the averaging interval.

None of those steps are particularly simple or easy.

I've worked on systems to measure the (microwave) distance to Jupiter
and back with an accuracy of around 1 part in 1E15 at 32 GHz,
integrating over 1000 seconds. That's tenths of a picosecond out of 1000
seconds. It's challenging.

http://en.wikipedia.org/wiki/Juno_%28spacecraft%29
http://juno.wisc.edu/spacecraft_instruments_GSE.html

574. Re: Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 01:45:41 UTC
From: amdx <amdx@knology.net>
Message-ID: <c2aa7$4d82b8a1$18ec6dd7$9027@KNOLOGY.NET>
Source record: 5475

"John - KD5YI" <sophi.2@invalid.org> wrote in message
news:iltv3bnve1@news.eternal-september.org...
> On 3/17/2011 9:27 AM, amdx wrote:
>> "John - KD5YI"<sophi.2@invalid.org> wrote in message
>> news:ilp7hn$hu6$4@news.eternal-september.org...
>>> Mike -
>>>
>>> What are you working on now? Your projects interest me.
>>>
>>> Cheers,
>>> John
>>
>> I'm sorry to say that working for a living gets in the way, of my
>> important
>> to me work :-)
>> Add to that a few household projects, such as building a fence around one
>> side of the house,
>> and some other minor repairs, I haven't had much time.
>
> That's understandable. Well, you can look forward to retirement, then.
>
>> I'm still on a quest for a high Q inductor of about 240uh. I hope to
>> hit
>> 2000. That involves
>> building a new polystyrene frame and two or three bundles of 660/46 litz
>> wire.
>
> I'm interested in not only whether you achieve your goal, but your trials
> and tribulations along the way. Please keep us informed as your time
> permits.
>
>> I still want to finish the high input impedance amp I had questions
>> about. I have three PCB's
>> with the basic amp so one will be with a 0,3pf input cap to 20 Meg and a
>> fet
>> gate. Another
>> will be a bootstraped input which as I understand, should be better. The
>> third is unknown,
>> If I get the bootstrap working well, I may finish the third and try to
>> sell
>> it on a crystal radio group.
>
> I'm also very interested in the amp as an aid to achieving your goal. For
> some reason, I'm a bit leery about it. However, your progressive story

> might change that.
>
>> Summer is the busy time for my business, so I won't get much important
>> work :-) done for a while.
>>
>> I have a flag antenna up in my yard.
>> http://i395.photobucket.com/albums/pp37/Qmavam/P1010128-1.jpg
>>
>> (Basic Flag antenna info, if your not aware,
>> http://www.hard-core-dx.com/nordicdx/antenna/loop/flag/index.html)
>
> Is that a metal mast and how close is the bottom antenna wire? It looks as
> if the antenna wire is insulated. Yes?

Yes, the mast is metal, and the wire is insulated. At the
present time I have
450 ohm ladder line running around the frame as the antenna. I
used that because
I had a thought about some type of phasing between the two
wires, but I have not
done anything further.

>> When I built the antenna, the idea was fairly new and I figured there
>> would
>> be some changes to the design,
>> with that in mind I built it so I could tilt the crossbeam for easy
>> access
>> to the matching transformer and
>> termination resistor. This assembly allows me to tilt the crossbeam.
>> http://i395.photobucket.com/albums/pp37/Qmavam/P1010135.jpg
>
> Interesting. You seem to be good at mechanical stuff. I am lousy.
>
>> By pulling on a rope, the pin slides and allows the tilt.
>> The mast is also on a rotor.
>> http://i395.photobucket.com/albums/pp37/Qmavam/P1010129.jpg
>>
>> There have been a few improvements, such as the Waller,
>> http://www.n4is.com/waller/BIG_DUAL_LOOP.html
>> But I have made any changes to mine.
>> Time to get to work.
>> Later, Mike
>> PS. have ya seen my electric gokart? :-)
>
> No. Aren't all go carts electric?

Here's a video, that's about 2 years old. I have since put new deep cycle
batteries on it.
It has a lot of torque, the kids love to do donuts, ok, I do too!
I smoked the first motor after a year or year and a half. Actually the
motor was ok, but

a connection between one 4 gauge wire and eight 16 gauge wires overheated
and created
a lot of smoke. I had a second motor, so I made another motor mount and put
it on.
This started as a project to get my 16 yr old son to build something
instead of play video games.
It was more my project than his, but I had some time with him and he learned
a little, so I'm glad
I did it. He is too.
http://www.youtube.com/watch?v=5MKjbXltAew
Mikek

575. Re: Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 02:07:35 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iluepb$gv4$1@news.eternal-september.org>
Source record: 5476

On 3/17/2011 8:45 PM, amdx wrote:

>>
>> No. Aren't all go carts electric?
>
> Here's a video, that's about 2 years old. I have since put new deep cycle
> batteries on it.
> It has a lot of torque, the kids love to do donuts, ok, I do too!
> I smoked the first motor after a year or year and a half. Actually the
> motor was ok, but
> a connection between one 4 gauge wire and eight 16 gauge wires overheated
> and created
> a lot of smoke. I had a second motor, so I made another motor mount and put
> it on.
> This started as a project to get my 16 yr old son to build something
> instead of play video games.
> It was more my project than his, but I had some time with him and he learned
> a little, so I'm glad
> I did it. He is too.
> http://www.youtube.com/watch?v=5MKjbXltAew
> Mikek
>

That's great, Mike.

I hope you have considered the safety aspects of a broken batter in a
collision.

Probably.

Cheers,
John

576. A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 06:18:10 UTC
From: vu2nan <vu2nan.7c8f3b8@radiobanter.com>
Message-ID: <vu2nan.7c8f3b8@radiobanter.com>
Source record: 5478

Here's the link.

http://nandustips.blogspot.com/2011/03/58-mobile-whip.html

73

Nandu.

--
vu2nan

577. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 10:04:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d832e45$0$2441$65785112@news.neostrada.pl>
Source record: 5477

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:iltops$703$1@news.jpl.nasa.gov...
>> Szczepan Bialek wrote:
>>>
>>
>>> For me will be enough your steatment if speed of light and radio waves
>>> were measured in different regions of the Solar System.
>>> Katz: http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF
>>> wrote that the electron temperatures are from 10^4 to 10^6. Look at Fig
>>> 2. Place the Mars instead a spacecraft. Between (a) and (c) should be
>>> some differences.
>>>
>
> Are you asking if the calculations in Katz's paper for the two paths have
> been experimentally verified? I don't know..

They were verified because there is a radio transmitter on the Mars. We do
not know the results.
S*

578. Re: Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 12:30:27 UTC
From: amdx <amdx@knology.net>
Message-ID: <205d3$4d834fb9$18ec6dd7$23105@KNOLOGY.NET>
Source record: 5479

"John - KD5YI" <sophi.2@invalid.org> wrote in message
news:iluepb$gv4$1@news.eternal-september.org...
> On 3/17/2011 8:45 PM, amdx wrote:
>
>>>
>>> No. Aren't all go carts electric?
>>
>> Here's a video, that's about 2 years old. I have since put new deep
>> cycle
>> batteries on it.
>> It has a lot of torque, the kids love to do donuts, ok, I do too!
>> I smoked the first motor after a year or year and a half. Actually the
>> motor was ok, but
>> a connection between one 4 gauge wire and eight 16 gauge wires overheated
>> and created
>> a lot of smoke. I had a second motor, so I made another motor mount and
>> put
>> it on.
>> This started as a project to get my 16 yr old son to build something
>> instead of play video games.
>> It was more my project than his, but I had some time with him and he
>> learned
>> a little, so I'm glad
>> I did it. He is too.
>> http://www.youtube.com/watch?v=5MKjbXltAew
>> Mikek
>>
>
> That's great, Mike.
>
> I hope you have considered the safety aspects of a broken batter in a
> collision.
>
> Probably.

Yes, it is a concern, I have thought about a cowling to go over the
batteries,
but so much to do so little time. Retirement 6 long years away, (note to
self,
eat right and exercise so you'll still be healthy in retirement) :-)
Mikek

579. Re: Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 16:30:41 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <im01bl$us8$1@news.eternal-september.org>
Source record: 5480

On 3/18/2011 7:30 AM, amdx wrote:
> "John - KD5YI"<sophi.2@invalid.org> wrote in message
> news:iluepb$gv4$1@news.eternal-september.org...
>> On 3/17/2011 8:45 PM, amdx wrote:
>>
>>>>
>>>> No. Aren't all go carts electric?
>>>
>>> Here's a video, that's about 2 years old. I have since put new deep
>>> cycle
>>> batteries on it.
>>> It has a lot of torque, the kids love to do donuts, ok, I do too!
>>> I smoked the first motor after a year or year and a half. Actually the
>>> motor was ok, but
>>> a connection between one 4 gauge wire and eight 16 gauge wires overheated
>>> and created
>>> a lot of smoke. I had a second motor, so I made another motor mount and
>>> put
>>> it on.
>>> This started as a project to get my 16 yr old son to build something
>>> instead of play video games.
>>> It was more my project than his, but I had some time with him and he
>>> learned
>>> a little, so I'm glad
>>> I did it. He is too.
>>> http://www.youtube.com/watch?v=5MKjbXltAew
>>> Mikek
>>>
>>
>> That's great, Mike.
>>
>> I hope you have considered the safety aspects of a broken batter in a
>> collision.
>>
>> Probably.
>
> Yes, it is a concern, I have thought about a cowling to go over the
> batteries,
> but so much to do so little time. Retirement 6 long years away, (note to
> self,
> eat right and exercise so you'll still be healthy in retirement) :-)
> Mikek

Gotcha.

When you mentioned go cart earlier, I was thinking golf cart. That's why I thought they were all electric. Now that I have my head on straight, I see that your go cart is an impressive little machine.

Good work.

John

580. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 17:36:49 UTC
From: oh5rm <jouko.nurma@gmail.com>
Message-ID: <f29bac8b-294d-4daf-9f4b-8c625c4a1b39@w7g2000yqe.googlegroups.com>
Source record: 5481

This will outperform the trap vertical at least on lower bands:
http://www.g7fek.co.uk/software/G7FEK%20antenna.pdf

It is an inverted L / vertical and needs radials or counterpoise

73 Jouko OH5RM

581. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-18 18:16:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gs67o6lpd16im4rra7qgsvpc4da23g54i9@4ax.com>
Source record: 5482

On Thu, 17 Mar 2011 17:19:09 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>>> Certainly he predicts that the temporal dispersion is going to be <0.1ps
>>> for near IR, which is, shall we say, challenging to measure.
>>
>> Why?

>measuring things to tenths of a picosecond, repeatably, can be tricky..
> That's like measuring the phase difference between two 10 GHz signals
>to 0.3 degrees. Or, another way to look at it is 1 picolightsecond is
>about a third of a millimeter.

A third of a millimeter is no big deal and for an optical (or
sub-optical) signal - trivial. Perhaps, when stated in terms of two
10 GHz signals, "near IR" is being vastly over stated.

>You're looking at
>a) figuring out how to generate two signals at near IR that has a
>frequency offset that can be accurately controlled.

Controlled? This is dreaming in technicolor (or near IR color) if the
source is celestial.

I thought the discussion was about dispersion, the characteristic of
the medium, not sources.

>Probably some sort
>of heterodyne mixing scheme would be easiest.

Heterodyning is extremely commonplace and accurate - why would it be
pondered as an alternative method?

>b) sending those two signals over the optical path through
>interplanetary space.

This blurs my understanding of celestial where two signals is a
poverty of what is available from ANY celestial source.

>c) recovering the signals,

If there is a problem of recovery, it seems it is more a practical
matter of source selection. Given the billions of celestial sources
available, I don't understand the problem.

>measuring the propagation time variation
>(say, by looking at the phase difference between the modulation
>signals), and then removing atmospheric effects.

Why worry about the atmosphere when you can get above it?

>d) it's probably going to be a pretty weak signal, so you'll need to
>average. That means your measurement system has to be picosecond stable
>over the averaging interval.

OK, so I am lost. This laundry list of difficulties seems to be
prepared to anticipate failure.

Name the near IR source and defend its choice in light (no pun) of
these intractable difficulties.

>None of those steps are particularly simple or easy.
>
>I've worked on systems to measure the (microwave) distance to Jupiter
>and back with an accuracy of around 1 part in 1E15 at 32 GHz,

32 GHz is what photonics would call far-far IR at roughly 3 to 4
orders of magnitude distant from "near IR."

>integrating over 1000 seconds. That's tenths of a picosecond out of 1000
>seconds. It's challenging.

No doubt - like trying to push a peanut up Pike's Peak with your nose.
That too has been done with challenge in mind.

How did this slip from "near IR" to 32 GHz?

73's
Richard Clark, KB7QHC

582. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 00:17:42 UTC
From: ka7niq <ka7niq.7c9f0d9@radiobanter.com>
Message-ID: <ka7niq.7c9f0d9@radiobanter.com>
Source record: 5484

oh5rm;737641 Wrote:
> This will outperform the trap vertical at least on lower bands:
> http://www.g7fek.co.uk/software/G7FEK%20antenna.pdf
>
> It is an inverted L / vertical and needs radials or counterpoise
>
> 73 Jouko OH5RM
Wow, I have never seen this antenna before, it looks pretty easy to
make.

--
ka7niq

583. A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 04:43:12 UTC
From: vu2nan <vu2nan.7c9f0d9@radiobanter.com>
Message-ID: <vu2nan.7c9f0d9@radiobanter.com>
Source record: 5483

Here's the link.

http://nandustips.blogspot.com/2011/03/58-mobile-whip.html

73

Nandu.

--
vu2nan

584. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 12:51:45 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <im25eb$5s0i$1@tr22n12.aset.psu.edu>
Source record: 5485

On 3/18/2011 1:16 PM, Richard Clark wrote:

> How did this slip from "near IR" to 32 GHz?

Hello Richard!

I'm back, and I see the old neighborhood hasn't changed much, although I haven't seen anything from Art - hopefully the chap hasn't had a bed turn.

Here is a question or two for those who have some doubt as to the speed of light.

A probe recently inserted itself into orbit around Mercury. How does some presumed superluminal velocity affect the insertion?

The idea that "we" have a transmitter on Mars notwithstanding, Jupiter has been transmitting RF for a long time. There are enough other spacecraft running around in our solar system, and certainly if radio waves traveled at some other velocity than what we thought they did, it would mean a strange and useless conspiracy to hide that fact.

Cue up the twilight zone music and grab your aluminum foil hats everyone.

- 73 de Mike N3LI -

585. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 16:45:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d84dd93$0$2505$65785112@news.neostrada.pl>
Source record: 5486

"Mike Coslo" <mjc5@psu.edu> napisal w wiadomosci
news:im25eb$5s0i$1@tr22n12.aset.psu.edu...
> On 3/18/2011 1:16 PM, Richard Clark wrote:
>
>> How did this slip from "near IR" to 32 GHz?
>
> Hello Richard!
>
> I'm back, and I see the old neighborhood hasn't changed much, although I
> haven't seen anything from Art - hopefully the chap hasn't had a bed turn.
>
> Here is a question or two for those who have some doubt as to the speed of
> light.
>
> A probe recently inserted itself into orbit around Mercury. How does some
> presumed superluminal velocity affect the insertion?
>
> The idea that "we" have a transmitter on Mars notwithstanding, Jupiter
> has been transmitting RF for a long time. There are enough other
> spacecraft running around in our solar system, and certainly if radio
> waves traveled at some other velocity than what we thought they did,

Not we but you.

>it would mean a strange and useless conspiracy to hide that fact.

Somebody wrote that the data from the Mars are available. But it is not easy
to find them.
S*
>

586. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 18:16:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <bg8f58-64t.ln1@mail.specsol.com>
Source record: 5487

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Somebody wrote that the data from the Mars are available. But it is not easy
> to find them.
> S*

Since data from Mars is less than 150 years ago I doubt you would read it
and I know you wouldn't understand it if you did.

--
Jim Pennino

Remove .spam.sux to reply.

587. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 19:07:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <80u9o6tvd4rhib9ga34aa2argdslb8hf59@4ax.com>
Source record: 5488

On Sat, 19 Mar 2011 07:51:45 -0500, Mike Coslo <mjc5@psu.edu> wrote:

>On 3/18/2011 1:16 PM, Richard Clark wrote:
>
>> How did this slip from "near IR" to 32 GHz?
>
>Hello Richard!

Hello Mike,

Welcome back to the Land of Odds.

>The idea that "we" have a transmitter on Mars notwithstanding, Jupiter
>has been transmitting RF for a long time.

Jupiter was one of my first DX goals back in the early 60s. However,
to expand upon your offering (I was wondering when anyone would
mention these sources), Earth, too, is a natural RF source (to
distinguish from the unnatural - such as stations carrying Fox Noise).

Quoting Wikipedia on Jupiter (nothing much said of the other planets
other than Earth):
"The intensity of Jovian radio emissions usually varies smoothly with
time; however, Jupiter periodically emits short and powerful bursts (S
bursts), which can outshine all other components. The total emitted
power of the DAM component is about 100 GW, while the power of all
other HOM/KOM components is about 10 GW. In comparison, the total
power of Earth's radio emissions is about 0.1 GW."

("emissions in the range 3 to 40 MHz are referred to as the decametric
radiation or DAM")

This decametric radiation would put us (returning to my quoted
question above) another several orders of magnitude beneath "near IR"
and into the "frigid IR" (a distinct irony with temperatures hovering
in the hundredths of a degree K).

73's
Richard Clark, KB7QHC

588. Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 21:25:11 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <77c8a740-4bad-470e-8081-5fe67e110d37@d26g2000prn.googlegroups.com>
Source record: 5489

I was palnning on building a 2M Yagi this weekend and was wondering if my available bill of materials would have a significant effect on normal design parameters. The plan is to use 3/4 inch EMT conduit for the boom and 3/8 inch all-thread for the elements. My concern was that the threads could change the design frequency.

JImmie

589. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-19 21:59:29 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <4c3c8085-1c22-4a7d-870b-e8bf6e1c8b0d@i14g2000yqe.googlegroups.com>
Source record: 5490

On 19 mar, 22:25, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> I was palnning on building a 2M Yagi this weekend and was wondering if
> my available bill of materials would have a significant effect on
> normal design parameters. The plan is to use 3/4 inch EMT conduit for
> the boom and 3/8 inch all-thread for the elements. My concern was that
> the threads could change the design frequency.
>
> JImmie

Hello Jimmie,

I think it will be OK, but if you want to be 100% sure, make a dipole
of same thickness tubing and one from the threaded material of choice.
If results are same, you can use it without dimension scaling. Are
you using galvanized or alu material?

If required, apply some corrosion protection.

With kind regards,

Wim
PA3DJS
www.tetech.nl
.

590. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 01:29:43 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <de6cad9f-3ea7-4839-ae5a-6849f6834334@q12g2000prb.googlegroups.com>
Source record: 5491

On Mar 18, 11:16 am, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 17 Mar 2011 17:19:09 -0700, Jim Lux <james.p....@jpl.nasa.gov>
> wrote:
>
> >>> Certainly he predicts that the temporal dispersion is going to be <0.1ps
> >>> for near IR, which is, shall we say, challenging to measure.
>
> >> Why?
> >measuring things to tenths of a picosecond, repeatably, can be tricky..
> > That's like measuring the phase difference between two 10 GHz signals
> >to 0.3 degrees. Or, another way to look at it is 1 picolightsecond is
> >about a third of a millimeter.
>
> A third of a millimeter is no big deal and for an optical (or
> sub-optical) signal - trivial. Perhaps, when stated in terms of two
> 10 GHz signals, "near IR" is being vastly over stated.

The reference to 10 GHz was to try and relate the problem at Near IR
to something more familiar (since I suspect that most r.r.a.a are more
familiar with RF than light) (since speed of *light* was being
discussed, and the reference cited referred to optical communications
at Near IR)

>
> >You're looking at
> >a) figuring out how to generate two signals at near IR that has a
> >frequency offset that can be accurately controlled.
>
> Controlled? This is dreaming in technicolor (or near IR color) if the
> source is celestial.

The figures in the referenced paper showed a manmade source,
presumably with some sort of source which could be designed to make
measuring dispersion easier.

>
> I thought the discussion was about dispersion, the characteristic of
> the medium, not sources.

Precisely.. but if you're going to measure dispersion, you've got to
have a way to do it, and sending out two signals that are coherent
with each other at a known offset seems to be a fairly straightforward
approach.

>
> >Probably some sort

> >of heterodyne mixing scheme would be easiest.
>
> Heterodyning is extremely commonplace and accurate - why would it be
> pondered as an alternative method?

For optical signals, there could be other ways to generate multiple
signals at different frequencies that are coherent with each other. I
don't know enough about optical measurement techniques. I *do* know
that you can modulate near IR with RF signals using a variety of
techniques.

>
> >b) sending those two signals over the optical path through
> >interplanetary space.
>
> This blurs my understanding of celestial where two signals is a
> poverty of what is available from ANY celestial source.
>

Back to the figure reference.
And, of course, getting coherent signals from a celestial source might
be a challenge. I don't know.. maybe some sort of clever correlation
technique in an interferometer would do. Not really my field.
> >c) recovering the signals,
>
> If there is a problem of recovery, it seems it is more a practical
> matter of source selection. Given the billions of celestial sources
> available, I don't understand the problem.

Precision detection of a man made signal from across the solar system
is a challenge.

>
> >measuring the propagation time variation
> >(say, by looking at the phase difference between the modulation
> >signals), and then removing atmospheric effects.
>
> Why worry about the atmosphere when you can get above it?

Indeed. That would make things easier, and is something that people
want to do. But so far, we're stuck with just sending the transmitter
out there.

>
> >d) it's probably going to be a pretty weak signal, so you'll need to
> >average. That means your measurement system has to be picosecond stable
> >over the averaging interval.
>
> OK, so I am lost. This laundry list of difficulties seems to be
> prepared to anticipate failure.

Not so much failure, but that the original question asked for
experimental data to confirm a fairly well understood effect. My

point is to show that collecting that experimental data is non-
trivial, and not something that you can just rig up in your backyard
with baling wire and sealing wax.

>
> Name the near IR source and defend its choice in light (no pun) of
> these intractable difficulties.

There has been more than one optical comm experiment from deep space.

>
> >None of those steps are particularly simple or easy.
>
> >I've worked on systems to measure the (microwave) distance to Jupiter
> >and back with an accuracy of around 1 part in 1E15 at 32 GHz,
>
> 32 GHz is what photonics would call far-far IR at roughly 3 to 4
> orders of magnitude distant from "near IR."
>
> >integrating over 1000 seconds. That's tenths of a picosecond out of 1000
> >seconds. It's challenging.
>
> No doubt - like trying to push a peanut up Pike's Peak with your nose.
> That too has been done with challenge in mind.

Well.. yes, it *is* hard, but if you want to know the internal
structure of another planet, it does take some work.

>
> How did this slip from "near IR" to 32 GHz?
>

The example of 32 GHz is to illustrate that I am not just speculating
about the difficulties of doing it at IR. I have personal knowledge
of how hard it is at 32GHz, and I'm pretty sure it's harder at Near
IR.

So someone on a listserv or usenet group who's looking for a "hey I
did the experiment yesterday, and sure enough, dispersive media have
dispersion" isn't going to get it. Nor are they likely to find the
results of someone who might have done it for real without digging a
bit.

591. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 01:36:11 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <8402b2df-ecb3-4ee4-b6b6-42d1682ab04f@z27g2000prz.googlegroups.com>
Source record: 5492

On Mar 19, 12:07 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 19 Mar 2011 07:51:45 -0500, Mike Coslo <m...@psu.edu> wrote:
> >On 3/18/2011 1:16 PM, Richard Clark wrote:
>
> >> How did this slip from "near IR" to 32 GHz?
>
> >Hello Richard!
>
> Hello Mike,
>
> Welcome back to the Land of Odds.
>
> >The idea that "we" have a transmitter on Mars notwithstanding, Jupiter
> >has been transmitting RF for a long time.

> "The intensity of Jovian radio emissions usually varies smoothly with
> time; however, Jupiter periodically emits short and powerful bursts (S
>
It would be difficult to make measurements of dispersive propagation
in the interplanetary media using the natural emissions of Jupiter,
since you don't have knowledge of the relative phases/timing of the
emissions at different frequencies, so you have nothing to compare
against on earth.

If you had two receivers in space separated by some distance along a
line from Jupiter, maybe you could do it. If they're on earth, I
think the ionospheric variation would dominate your measurement.

That said, at least you can get a big frequency ratio so the 1/f1^2-1/
f2^2 term would be large.

Maybe the folks building LOFAR have some clever ideas on compensating
for the ionosphere and they will be able to use Jupiter as a source
for this sort of measurement (if they're interested.... I suspect
they're not..)

592. wind seems to have stopped

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 08:09:15 UTC
From: jacks tevens <jacksseven@gmail.com>
Message-ID: <8f736ed1-a328-4d74-95a5-c18f7b502dbd@x8g2000prh.googlegroups.com>
Source record: 5493

wind seems to have stopped. I raised my hand forward, human Vientiane, all is nothingness. Robber looked at me and said: “girl, good death is better than live. According to my right.” I am desperate to see him, look at the cliff, sad: “The father and mother, Lijun went. Some brother , afterlife again later. “finish, I wiped tears jump into the abyss. Robbers rushed Yaqian looked down, shook his head, got up to go back. Huangfu Shaohua lead a horse walking in the mountain, the ear seems to call the sound came, Mangxiang around and said: “You hear me.” Guards shook his head blankly, is it an illusion. Shaohua doubt his ears heard only the whistling of the wind. “Son, but also to move forward Why.” Bodyguard Pocket Watches Road. Huangfu Shaohua was about to answer, when suddenly a pain in the chest, tears almost fell off. Filled with an ominous feeling in his body. He no longer answer, flew up to display their footwork, guards hurriedly behind him. Huangfu Shaohua walked in front of an open place.

By torch and saw footprints on the ground there are many messy, busy look down. A bodyguard to catch up, pick up something from the floor: “The son, see.” Huangfu Shaohua a closer look, but it is a kit, his mind a cool, busy out a look inside things, it really is that Sansei stone blocks, above marriage there is a vague word. “Lijun.” Huangfu Shaohua whinny cried: no response, the valley was quiet. “Where are you, Lijun, you quickly to answer me.” Huangfu Shaohua shouted aloud. His throat, the tears start coming out. Guards in the next advised: “The son, you have to calm, under the watch of these footprints, which should be the robber was, arrived at their cottage to go up, too late, I’m afraid the girl … Bangladesh …” Huangfu Shaohua heard this, jump immediately launched, to kick about Mafu, horses negative pain, quickly run to. Disorder along the footsteps of the ground, and soon to the cottage. Huangfu Shaohua took the lead and ran inside, engine out of the sword, while slashing indiscriminate killing, down a robber at once, screams again and again. Chieftain from the inside out, iron bar in his hand, asked: “Who you are, why attack my cottage.” Huangfu Shaohua not answer, pounced opinions on thorns. They have dozens of back and forth strokes, Shaohua Mu behind the ear guards are around Chikae GHD Deluxe Midnight iron, one extraordinary skill, such as instant put Zhaizhong kill the rest were obliterated, chieftain met not help flustered up,http://cheapusas.noxblog.com/
http://sunsungla.noxblog.com/
http://uggsfor.noxblog.com/
http://cheapsung.noxblog.com/
http://nnnike.noxblog.com/
http://cheapnik.noxblog.com/
http://nikeonsa.noxblog.com/

http://nikedis.noxblog.com/
http://adme.noxblog.com/
http://adons.noxblog.com/
http://cheapusas.www.de/
http://cheapusas.blogspot.es/
http://sunsungla.blogspot.es/
http://uggsfor.blogspot.es/
http://cheapsung.blogspot.es/
http://nnnik.blogspot.es/
http://cheapnik.blogspot.es/
http://nikeonsa.blogspot.es/
http://nikedis.blogspot.es/
http://admme.blogspot.es/
http://adons.blogspot.es/
http://cheapusas.blog.fc2.com/
http://sunsungla.blog.fc2.com/
http://uggsfor.blog.fc2blog.net/
http://cheapsung.blog.fc2blog.net/
http://nnnike.blog.fc2.com/
http://cheapnik.blog.fc2.com/
http://nikeonsa.blog.fc2.com/
http://nikedis.blog.fc2.com/
http://admme.blog.fc2.com/
http://adons.blog.fc2.com/
http://cheapusas.i.ph/
http://sunsungla.i.ph/
http://uggsfor.i.ph/
http://cheapsung.i.ph/
http://nnnike.i.ph/
http://cheapnik.i.ph/
http://nikeonsa.i.ph/
http://nikedis.i.ph/
http://adme.i.ph/
http://adons.i.ph/
http://cheapusas.blog-libre.net/
http://sunsungla.blog-libre.net/
http://uggsfor.blog-libre.net/
http://cheapsung.blog-libre.net/
http://nnnike.blog-libre.net/
http://cheapnik.blog-libre.net/
http://nikeonsa.blog-libre.net/
http://nikedis.blog-libre.net/
http://adme.blog-libre.net/
http://adons.blog-libre.net/

593. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 08:30:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3tdbo6pnobo28sgbvr1d5ltvdspsvv5fsn@4ax.com>
Source record: 5494

On Sat, 19 Mar 2011 18:36:11 -0700 (PDT), Jim Lux
<jimlux@earthlink.net> wrote:

>It would be difficult to make measurements of dispersive propagation
>in the interplanetary media using the natural emissions of Jupiter,
>since you don't have knowledge of the relative phases/timing of the
>emissions at different frequencies, so you have nothing to compare
>against on earth.

Hi Jim,

We would first have to agree what "dispersion" means.

If it conforms to optical dispersion (this having started, at least
for me, in the near IR, which is optical as far as I am concerned),
then the wide bandwidth (offering us with many time coherent sources)
through a frequency dependent media would present different phase
shifts which could then be cross-correlated. Modal dispersion might
present a problem because even though Jupiter is far away, it still
presents a significant arc of span across space (i.e. not even close
to being a point source).

73's
Richard Clark, KB7QHC

594. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 08:42:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hqebo6tnp92na97u0qrh1kqp0reaehekco@4ax.com>
Source record: 5495

On Sat, 19 Mar 2011 18:29:43 -0700 (PDT), Jim Lux
<jimlux@earthlink.net> wrote:

>> How did this slip from "near IR" to 32 GHz?
>>
>
>The example of 32 GHz is to illustrate that I am not just speculating
>about the difficulties of doing it at IR. I have personal knowledge
>of how hard it is at 32GHz, and I'm pretty sure it's harder at Near
>IR.

Hi Jim,

The display and measure of Newton's rings is exceedingly trivial for
optical time/phase/freq/distance differences far shorter in shift (nm
to um) than what is being described here (in mm).

73's
Richard Clark, KB7QHC

595. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 20:09:09 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <502b032d-cb23-48c0-9ba8-23149a533e5e@i35g2000prd.googlegroups.com>
Source record: 5496

On Mar 19, 5:59 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 19 mar, 22:25, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > I was palnning on building a 2M Yagi this weekend and was wondering if
> > my available bill of materials would have a significant effect on
> > normal design parameters. The plan is to use 3/4 inch EMT conduit for
> > the boom and 3/8 inch all-thread for the elements. My concern was that
> > the threads could change the design frequency.
>
> > JImmie
>
> Hello Jimmie,
>
> I think it will be OK, but if you want to be 100% sure, make a dipole
> of same thickness tubing and one from the threaded material of choice.
> If results are same, you can use it without dimension scaling. Are
> you using galvanized or alu material?
>
> If required, apply some corrosion protection.
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl
> .

Galvanized, The pupose was to demostrate that materials can often be
adlib and still have a useable antenna. Maybe this one will not last
30 years before it corrodes away but probably 5 or 6. Also I want to
demonstrate the value of using a jig when building many antennas all
made the same. I have tried the test you mention on 10 meters before
replacing a vertical mounted on my truck. Changing materials didn't
seem to make much difference. WIll try the same for 2M but I dont
have an SWR meter for 2M at this time.. Was hopng someone in the group
might think this interesing enough to try.

Jimmie

596. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 20:38:54 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <im5okv$863$1@news.eternal-september.org>
Source record: 5497

On 3/20/2011 3:09 PM, JIMMIE wrote:
> On Mar 19, 5:59 pm, Wimpie<wimabc...@tetech.nl> wrote:
>> On 19 mar, 22:25, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>>
>>> I was palnning on building a 2M Yagi this weekend and was wondering if
>>> my available bill of materials would have a significant effect on
>>> normal design parameters. The plan is to use 3/4 inch EMT conduit for
>>> the boom and 3/8 inch all-thread for the elements. My concern was that
>>> the threads could change the design frequency.
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>>> JImmie
>>
>> Hello Jimmie,
>>
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>> of same thickness tubing and one from the threaded material of choice.
>> If results are same, you can use it without dimension scaling. Are
>> you using galvanized or alu material?
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>> If required, apply some corrosion protection.
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>> With kind regards,
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> Galvanized, The pupose was to demostrate that materials can often be
> adlib and still have a useable antenna. Maybe this one will not last
> 30 years before it corrodes away but probably 5 or 6. Also I want to
> demonstrate the value of using a jig when building many antennas all
> made the same. I have tried the test you mention on 10 meters before
> replacing a vertical mounted on my truck. Changing materials didn't
> seem to make much difference. WIll try the same for 2M but I dont
> have an SWR meter for 2M at this time.. Was hopng someone in the group
> might think this interesing enough to try.
>
>
> Jimmie

I made a j-pole from galvanized steel. It worked beautifully. When I
replaced it with a commercial antenna I notice very little change in
performance and signal strength. I had hoped my kluge was deficient in
performance compared to the commercial antenna. Didn't seem so. My QTH

was way out in the country side about 20 miles from the nearest repeater.

Just a story for you, no hard data. Sorry.

John

597. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 22:11:52 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cf1021cd-60fd-4011-ab56-ff78addc3ebb@n10g2000yqf.googlegroups.com>
Source record: 5499

On 20 mar, 21:09, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Mar 19, 5:59 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 19 mar, 22:25, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > > I was palnning on building a 2M Yagi this weekend and was wondering if
> > > my available bill of materials would have a significant effect on
> > > normal design parameters. The plan is to use 3/4 inch EMT conduit for
> > > the boom and 3/8 inch all-thread for the elements. My concern was that
> > > the threads could change the design frequency.
>
> > > JImmie
>
> > Hello Jimmie,
>
> > I think it will be OK, but if you want to be 100% sure, make a dipole
> > of same thickness tubing and one from the threaded material of choice.
> > If results are same, you can use it without dimension scaling. Are
> > you using galvanized or alu material?
>
> > If required, apply some corrosion protection.
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> > With kind regards,
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> > PA3DJSwww.tetech.nl
> > .
>
> Galvanized, The pupose was to demostrate that materials can often be
> adlib and still have a useable antenna. Maybe this one will not last
> 30 years before it corrodes away but probably 5 or 6. Also I want to
> demonstrate the value of using a jig when building many antennas all
> made the same. I have tried the test you mention on 10 meters before
> replacing a vertical mounted on my truck. Changing materials didn't
> seem to make much difference. WIll try the same for 2M but I dont
> have an SWR meter for 2M at this time.. Was hopng someone in the group
> might think this interesing enough to try.
>
> Jimmie

Hello Jimmie

Zinc has about 60% conductivity of alu alloys that are used for antennas, so the surface resistance will be almost 80% of alu tubing (same diameter). Of course you have thread that increases the path length. Given the thread, your net conductivity will be about 40% (w.r.t. alu).

This will be OK for doing your experiments and to demonstrate that you can use many materials for antennas. I would recommend you to find some means to determine VSWR (or refl. coeff.) at 2m (home made slotted coaxial line, or home brew coupler?).

With kind regards,

Wim
PA3DJS
www.tetech.nl
Without abc, PM will reach me

598. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 22:14:37 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <M5qdnfEaR7jb8xvQnZ2dnUVZ_uudnZ2d@earthlink.com>
Source record: 5498

"John - KD5YI" <sophi.2@invalid.org> wrote in message
news:im5okv$863$1@news.eternal-september.org...
> I made a j-pole from galvanized steel. It worked beautifully. When I
> replaced it with a commercial antenna I notice very little change in
> performance and signal strength. I had hoped my kluge was deficient in
> performance compared to the commercial antenna. Didn't seem so. My QTH was
> way out in the country side about 20 miles from the nearest repeater.
>
> Just a story for you, no hard data. Sorry.
>
> John

Unless you can tell the differance in a few tenths of a dB, almost any
conductive material will work for simple antennas if the diameter is large
in terms of a wavelength. If the antenna is built the same or vary similar
to a comercial antenna, you usually don't notice any differance.

Lots of money is spent on the comercial stuff for little or no improvement.
Problem for many is buying the materials. If you only need a small ammount
of material , you often have to buy a lot.
Then not everyone has the machinery to do the building.

599. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 23:38:05 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <im634t$tq3$1@news.eternal-september.org>
Source record: 5500

On 3/20/2011 5:14 PM, Ralph Mowery wrote:
> "John - KD5YI"<sophi.2@invalid.org> wrote in message
> news:im5okv$863$1@news.eternal-september.org...
>> I made a j-pole from galvanized steel. It worked beautifully. When I
>> replaced it with a commercial antenna I notice very little change in
>> performance and signal strength. I had hoped my kluge was deficient in
>> performance compared to the commercial antenna. Didn't seem so. My QTH was
>> way out in the country side about 20 miles from the nearest repeater.
>>
>> Just a story for you, no hard data. Sorry.
>>
>> John
>
> Unless you can tell the differance in a few tenths of a dB, almost any
> conductive material will work for simple antennas if the diameter is large
> in terms of a wavelength. If the antenna is built the same or vary similar
> to a comercial antenna, you usually don't notice any differance.

Of course. My response is aimed at the OP's subject line. I'm trying to
be encouraging.

> Lots of money is spent on the comercial stuff for little or no improvement.
> Problem for many is buying the materials. If you only need a small ammount
> of material , you often have to buy a lot.
> Then not everyone has the machinery to do the building.

I bought a long piece of chain link fence top rail for the mast and a
piece of conduit for the 1/4 wave element. I used a hacksaw and a drill
to do the machining. I used automobile hose clamps to connect the
transmission line to the kluge. It worked well for about 10 years until
high winds bent the mast (chain link fence top rail is not that stiff).

600. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-20 23:42:33 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <im63da$v09$1@news.eternal-september.org>
Source record: 5401

On 3/20/2011 5:11 PM, Wimpie wrote:
> On 20 mar, 21:09, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>> On Mar 19, 5:59 pm, Wimpie<wimabc...@tetech.nl> wrote:
>>
>>
>>
>>> On 19 mar, 22:25, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>>
>>>> I was palnning on building a 2M Yagi this weekend and was wondering if
>>>> my available bill of materials would have a significant effect on
>>>> normal design parameters. The plan is to use 3/4 inch EMT conduit for
>>>> the boom and 3/8 inch all-thread for the elements. My concern was that
>>>> the threads could change the design frequency.
>>
>>>> JImmie
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>>> Hello Jimmie,
>>
>>> I think it will be OK, but if you want to be 100% sure, make a dipole
>>> of same thickness tubing and one from the threaded material of choice.
>>> If results are same, you can use it without dimension scaling. Are
>>> you using galvanized or alu material?
>>
>>> If required, apply some corrosion protection.
>>
>>> With kind regards,
>>
>>> Wim
>>> PA3DJSwww.tetech.nl
>>> .
>>
>> Galvanized, The pupose was to demostrate that materials can often be
>> adlib and still have a useable antenna. Maybe this one will not last
>> 30 years before it corrodes away but probably 5 or 6. Also I want to
>> demonstrate the value of using a jig when building many antennas all
>> made the same. I have tried the test you mention on 10 meters before
>> replacing a vertical mounted on my truck. Changing materials didn't
>> seem to make much difference. WIll try the same for 2M but I dont
>> have an SWR meter for 2M at this time.. Was hopng someone in the group
>> might think this interesing enough to try.
>>
>> Jimmie
>
> Hello Jimmie

>
> Zinc has about 60% conductivity of alu alloys that are used for
> antennas, so the surface resistance will be almost 80% of alu tubing
> (same diameter). Of course you have thread that increases the path
> length. Given the thread, your net conductivity will be about 40%
> (w.r.t. alu).
>
> This will be OK for doing your experiments and to demonstrate that you
> can use many materials for antennas. I would recommend you to find
> some means to determine VSWR (or refl. coeff.) at 2m (home made
> slotted coaxial line, or home brew coupler?).
>
> With kind regards,
>
>
> Wim
> PA3DJS
> www.tetech.nl
> Without abc, PM will reach me

Here is one the OP can build:

http://www.qsl.net/xq2fod/Electron/swr/swr.html

601. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-21 12:06:54 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <e13f11aa-4d97-43fa-8104-293815055c92@d12g2000vbz.googlegroups.com>
Source record: 5402

On 21 mar, 00:42, John - KD5YI <soph...@invalid.org> wrote:
> On 3/20/2011 5:11 PM, Wimpie wrote:
>
>
>
> > On 20 mar, 21:09, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
> >> On Mar 19, 5:59 pm, Wimpie<wimabc...@tetech.nl> wrote:
>
> >>> On 19 mar, 22:25, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>
> >>>> I was palnning on building a 2M Yagi this weekend and was wondering if
> >>>> my available bill of materials would have a significant effect on
> >>>> normal design parameters. The plan is to use 3/4 inch EMT conduit for
> >>>> the boom and 3/8 inch all-thread for the elements. My concern was that
> >>>> the threads could change the design frequency.
>
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> >>> Hello Jimmie,
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> >>> I think it will be OK, but if you want to be 100% sure, make a dipole
> >>> of same thickness tubing and one from the threaded material of choice.
> >>> If results are same, you can use it without dimension scaling. Are
> >>> you using galvanized or alu material?
>
> >>> If required, apply some corrosion protection.
>
> >>> With kind regards,
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> >>> Wim
> >>> PA3DJSwww.tetech.nl
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> >> Galvanized, The pupose was to demostrate that materials can often be
> >> adlib and still have a useable antenna. Maybe this one will not last
> >> 30 years before it corrodes away but probably 5 or 6. Also I want to
> >> demonstrate the value of using a jig when building many antennas all
> >> made the same. I have tried the test you mention on 10 meters before
> >> replacing a vertical mounted on my truck. Changing materials didn't
> >> seem to make much difference. WIll try the same for 2M but I dont
> >> have an SWR meter for 2M at this time.. Was hopng someone in the group
> >> might think this interesing enough to try.
>
> >> Jimmie

>
> > Hello Jimmie
>
> > Zinc has about 60% conductivity of alu alloys that are used for
> > antennas, so the surface resistance will be almost 80% of alu tubing
> > (same diameter). Of course you have thread that increases the path
> > length. Given the thread, your net conductivity will be about 40%
> > (w.r.t. alu).
>
> > This will be OK for doing your experiments and to demonstrate that you
> > can use many materials for antennas. I would recommend you to find
> > some means to determine VSWR (or refl. coeff.) at 2m (home made
> > slotted coaxial line, or home brew coupler?).
>
> > With kind regards,
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> > Wim
> > PA3DJS
> >www.tetech.nl
> > Without abc, PM will reach me
>
> Here is one the OP can build:
>
> http://www.qsl.net/xq2fod/Electron/swr/swr.html

Hello John,

I made (and still use) same type of wheatstone bridge refl. coeff.
meter with BAT15 diodes (so only low power) and 0805 SMD. Instead of a
moving coil indicator I used a 10 MOhm DVM (to get better linearity at
low power input).

Such a simple device is very useful. Only limitation is that you can't
have it in between during normal operation as you have 6 dB insertion
loss.

Wim
PA3DJS
www.tetech.nl

602. HOT VIDEOS WEBSITES AND PHOTO SITES

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-21 13:02:20 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <59cd34cd-5bb8-483e-a897-295532122743@i4g2000pro.googlegroups.com>
Source record: 5403

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

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http://videosonblog.blogspot.com/2010/11/masala-videos.html

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dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

603. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-21 15:38:35 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <im7rdt$1ld$1@news.eternal-september.org>
Source record: 5404

On 3/21/2011 7:06 AM, Wimpie wrote:
> On 21 mar, 00:42, John - KD5YI<soph...@invalid.org> wrote:
>> On 3/20/2011 5:11 PM, Wimpie wrote:
>>
>>
>>
>>> On 20 mar, 21:09, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>>>> On Mar 19, 5:59 pm, Wimpie<wimabc...@tetech.nl> wrote:
>>
>>>>> On 19 mar, 22:25, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
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>>>>>> the boom and 3/8 inch all-thread for the elements. My concern was that
>>>>>> the threads could change the design frequency.
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>>>>> of same thickness tubing and one from the threaded material of choice.
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>>>>> you using galvanized or alu material?
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>>>>> If required, apply some corrosion protection.
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>>>>> With kind regards,
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>>
>>>> Galvanized, The pupose was to demostrate that materials can often be
>>>> adlib and still have a useable antenna. Maybe this one will not last
>>>> 30 years before it corrodes away but probably 5 or 6. Also I want to
>>>> demonstrate the value of using a jig when building many antennas all
>>>> made the same. I have tried the test you mention on 10 meters before
>>>> replacing a vertical mounted on my truck. Changing materials didn't
>>>> seem to make much difference. WIll try the same for 2M but I dont
>>>> have an SWR meter for 2M at this time.. Was hopng someone in the group
>>>> might think this interesing enough to try.
>>

>>>> Jimmie
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>>> Hello Jimmie
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>>> Zinc has about 60% conductivity of alu alloys that are used for
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>> Here is one the OP can build:
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>> http://www.qsl.net/xq2fod/Electron/swr/swr.html
>
> Hello John,
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> I made (and still use) same type of wheatstone bridge refl. coeff.
> meter with BAT15 diodes (so only low power) and 0805 SMD. Instead of a
> moving coil indicator I used a 10 MOhm DVM (to get better linearity at
> low power input).

That's a great idea. I wish I had thought of that.

John

604. Re: Skin effect question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-21 19:16:00 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d7e7418c-5326-4efb-bab4-49be1eda5907@o10g2000vbg.googlegroups.com>
Source record: 5405

On 21 mar, 16:38, John - KD5YI <soph...@invalid.org> wrote:
> On 3/21/2011 7:06 AM, Wimpie wrote:
>
>
>
> > On 21 mar, 00:42, John - KD5YI<soph...@invalid.org> wrote:
> >> On 3/20/2011 5:11 PM, Wimpie wrote:
>
> >>> On 20 mar, 21:09, JIMMIE<JIMMIEDEE...@YAHOO.COM>   wrote:
> >>>> On Mar 19, 5:59 pm, Wimpie<wimabc...@tetech.nl>   wrote:
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> >>>>> On 19 mar, 22:25, JIMMIE<JIMMIEDEE...@YAHOO.COM>   wrote:
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> >>>>>> JImmie
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> >>>>> If results are same, you can use it without dimension scaling. Are
> >>>>> you using galvanized or alu material?
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> >>>>> If required, apply some corrosion protection.
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> >>>>> With kind regards,
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> >>>>> .
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> > replacing a vertical mounted on my truck. Changing materials didn't
> > seem to make much difference. WIll try the same for 2M but I dont
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> >>> (w.r.t. alu).
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> >>> some means to determine VSWR (or refl. coeff.) at 2m (home made
> >>> slotted coaxial line, or home brew coupler?).
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> >> Here is one the OP can build:
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> >>http://www.qsl.net/xq2fod/Electron/swr/swr.html
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> > Hello John,
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> > I made (and still use) same type of wheatstone bridge refl. coeff.
> > meter with BAT15 diodes (so only low power) and 0805 SMD. Instead of a
> > moving coil indicator I used a 10 MOhm DVM (to get better linearity at
> > low power input).
>
> That's a great idea. I wish I had thought of that.
>
> John

Hello John, Jimmie and others,

If the DC input resistance of the DVM is very large compared to the zero bias differential resistance of the diode, there is a tight relation between DC output voltage and the RF input voltage with reasonable temperature behavior.

If you measure the RF to DC curve at about 5 RF input levels (at say 10 MHz, just with an oscilloscope and simple RF signal source), you can make a curve fitted table/graph to handle the linear to quadratic transition at around 150mV RF peak voltage. This enables you to convert DC output to RF input voltage. You can expect about 1mV DC

from a real schottky diode for 10mVp RF input voltage (across the
diode junction).

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

605. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-22 12:47:31 UTC
From: ka7niq <ka7niq.7ce8e19@radiobanter.com>
Message-ID: <ka7niq.7ce8e19@radiobanter.com>
Source record: 5407

vu2nan;737699 Wrote:
> Here's the link.
>
> http://nandustips.blogspot.com/2011/03/58-mobile-whip.html
>
> 73
>
> Nandu.
I read an article that said a 1/4 wave is almost as good.

--
ka7niq

606. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-22 13:08:12 UTC
From: vu2nan <vu2nan.7ce8e19@radiobanter.com>
Message-ID: <vu2nan.7ce8e19@radiobanter.com>
Source record: 5406

ka7niq;738414 Wrote:
> I read an article that said a 1/4 wave is almost as good.

Hi OM Chris,

Focus is on shunt feed wich gives the discharge path for the static.

This is not possible with the 1/4 wave since there is no matching coil.

Many thanks.

73

Nandu.

--
vu2nan

607. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-22 17:42:20 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iman1r$v7i$1@news.jpl.nasa.gov>
Source record: 5408

vu2nan wrote:
> ka7niq;738414 Wrote:
>> I read an article that said a 1/4 wave is almost as good.
>
> Hi OM Chris,
>
> Focus is on shunt feed wich gives the discharge path for the static.
>
> This is not possible with the 1/4 wave since there is no matching coil.
>
>

But you could put a 1 Meg resistor(or a RF choke, for that matter)
across the feed to discharge static with almost no effect on RF performance.

One of the other advantages of a 5/8 long radiator is that the pattern
is slightly "flatter"... it would show up on an antenna range or a
model, but on an actual vehicle, it might not make as much difference

608. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-23 14:14:30 UTC
From: vu2nan <vu2nan.7cfdf99@radiobanter.com>
Message-ID: <vu2nan.7cfdf99@radiobanter.com>
Source record: 5409

Jim Lux;738487 Wrote:
> vu2nan wrote:-
> ka7niq;738414 Wrote: -
> I read an article that said a 1/4 wave is almost as good.-
>
> Hi OM Chris,
>
> Focus is on shunt feed wich gives the discharge path for the static.
>
> This is not possible with the 1/4 wave since there is no matching
> coil.
>
> -
>
> But you could put a 1 Meg resistor(or a RF choke, for that matter)
> across the feed to discharge static with almost no effect on RF
> performance.
>
> One of the other advantages of a 5/8 long radiator is that the pattern
> is slightly "flatter"... it would show up on an antenna range or a
> model, but on an actual vehicle, it might not make as much difference

Hi OM Jim,

I agree with you on all points.

For working mobile, an antenna radiating at higher angles is preferable
since
base station antennas would be at a height and repeater antennas even
higher.

On the other hand, for the base station, a flatter antenna pattern would
help
while working mobile stations (e.g a Slim Jim would be better than a
GP).

73

Nandu.

--
vu2nan

609. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-23 19:51:52 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4D8A4F58.1070101@jpl.nasa.gov>
Source record: 5410

vu2nan wrote:
> Jim Lux;738487 Wrote:
>> vu2nan wrote:-
>> ka7niq;738414 Wrote: -
>> I read an article that said a 1/4 wave is almost as good.-
>>
>> Hi OM Chris,
>>
>> Focus is on shunt feed wich gives the discharge path for the static.
>>
>> This is not possible with the 1/4 wave since there is no matching
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>>
>> -
>>
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>> performance.
>>
>> One of the other advantages of a 5/8 long radiator is that the pattern
>> is slightly "flatter"... it would show up on an antenna range or a
>> model, but on an actual vehicle, it might not make as much difference
>
> Hi OM Jim,
>
> I agree with you on all points.
>
> For working mobile, an antenna radiating at higher angles is preferable
> since
> base station antennas would be at a height and repeater antennas even
> higher.
>

Maybe in the Los Angeles area close to the 5000 ft high mountains the repeaters would be be high up, but I think for the vast majority of cases, the vertical elevation angle to a repeater would be pretty low (<10 degrees).

Consider a repeater on a 100 meter tower. If you're more than 1 km away, it's less than 6 degrees above the horizon. If you're within a km, you're close enough you don't need the gain.

610. Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-23 22:55:40 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <88aeac6f-b34d-4ad0-b846-97ee7cb78eb4@q40g2000prh.googlegroups.com>
Source record: 5411

A few years ago there was some discussion on r.r.a.a. about helically-
wound, normal-mode monopoles, and the rather common expectation that
they had higher gain than a linear monopole of the same physical
height (and with other things equal).

A recent NEC-2 analysis of this topic might be of interest:
http://i62.photobucket.com/albums/h85/rfry-100/Helix_vs_Linear_Monopole.gif
.

Also this link to a page from John Kraus' ANTENNAS FOR ALL
APPLICATIONS, 3rd Edition:
http://i62.photobucket.com/albums/h85/rfry-100/Helically-woundVertical.gif
.

//

611. A3S/A743

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 00:05:55 UTC
From: "D@LS" <helmsman@wowway.com/>
Message-ID: <fg2lo6l41vmesltiibh88o6qjf2gqg5clv@4ax.com>
Source record: 5412

Does anyone know the Radiation Angle of these antenna's (Cushcraft A3S/A743) at 33 feet or if there is a formula to calculate it ?

Thank You

612. XXX HOT PHOTOS&VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 07:09:41 UTC
From: rama rao <ramarao98989@gmail.com>
Message-ID: <9c33d7ae-ca0f-4dc2-bb8d-ad5c5d53bbaf@f36g2000pri.googlegroups.com>
Source record: 5413

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http://sexy-rainsongs.blogspot.com/
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http://sexy-rainsongs.blogspot.com/2011/03/deepika-padukone.html
asin sexy videos
http://sexy-rainsongs.blogspot.com/2011/03/asin.html

613. Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 09:53:09 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8b1485$0$2484$65785112@news.neostrada.pl>
Source record: 5414

"This finding had practical applications for telegraph communications. For example, Heaviside actually solved one of the biggest problems affecting long distance telegraph and telephone communication in 1887 -distortion. It was known that different frequencies travel with different speeds on a long cable. For example, the low bass frequencies in a voice signal travel faster than the high treble frequencies. When the cable is long enough, the frequencies smear, and both voice and telegraph signals become garbled noise. Heaviside used his equations to show that if inductances (i.e., a small coil of wire) were added along the length of the cable, the distortion could be reduced." From:
http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside

" It was known that different frequencies travel with different speeds on a long cable".

Is the same in air and space?
S*

614. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 10:16:29 UTC
From: vu2nan <vu2nan.7d0dcb8@radiobanter.com>
Message-ID: <vu2nan.7d0dcb8@radiobanter.com>
Source record: 5416

Jim Lux;738701 Wrote:
> vu2nan wrote:-
> Jim Lux;738487 Wrote: -
> vu2nan wrote:-
> ka7niq;738414 Wrote: -
> I read an article that said a 1/4 wave is almost as good.-
>
> Hi OM Chris,
>
> Focus is on shunt feed wich gives the discharge path for the static.
>
> This is not possible with the 1/4 wave since there is no matching
> coil.
>
> -
>
> But you could put a 1 Meg resistor(or a RF choke, for that matter)
> across the feed to discharge static with almost no effect on RF
> performance.
>
> One of the other advantages of a 5/8 long radiator is that the pattern
>
> is slightly "flatter"... it would show up on an antenna range or a
> model, but on an actual vehicle, it might not make as much difference-
>
> Hi OM Jim,
>
> I agree with you on all points.
>
> For working mobile, an antenna radiating at higher angles is
> preferable
> since
> base station antennas would be at a height and repeater antennas even
> higher.
> -
>
> Maybe in the Los Angeles area close to the 5000 ft high mountains the
> repeaters would be be high up, but I think for the vast majority of
> cases, the vertical elevation angle to a repeater would be pretty low
> (10 degrees).
>
> Consider a repeater on a 100 meter tower. If you're more than 1 km
> away, it's less than 6 degrees above the horizon. If you're within a
> km, you're close enough you don't need the gain.

Hi OM Jim,

You're right. Guess I must have erred in my observations.

73

Nandu.

--
vu2nan

615. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 10:36:58 UTC
From: david <none@nospam.com>
Message-ID: <imf6s9$q5g$1@dont-email.me>
Source record: 5415

On Thu, 24 Mar 2011 10:53:09 +0100, Szczepan Bialek rearranged some
electrons to say:

> " It was known that different frequencies travel with different speeds
> on a long cable".
>
> Is the same in air and space?
> S*

No, how many people have to tell you that?

616. Re: A3S/A743

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 14:50:42 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrniommi2.2f3s.knock_yourself_out@shell.config.com>
Source record: 5417

On Wed, 23 Mar 2011 20:05:55 -0400, D@LS wrote:
> Does anyone know the Radiation Angle of these antenna's (Cushcraft
> A3S/A743) at 33 feet or if there is a formula to calculate it ?

Different operating frequencies = different answers.

617. Re: A3S/A743

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 14:59:24 UTC
From: "D@LS" <helmsman@wowway.com/>
Message-ID: <8smmo65vldtqnolhfi4236qeh1tj0c92jq@4ax.com>
Source record: 5418

On 24 Mar 2011 14:50:42 GMT, Allodoxaphobia
<knock_yourself_out@example.net> wrote:

>On Wed, 23 Mar 2011 20:05:55 -0400, D@LS wrote:
>> Does anyone know the Radiation Angle of these antenna's (Cushcraft
>> A3S/A743) at 33 feet or if there is a formula to calculate it ?
>
>Different operating frequencies = different answers.

28,300 - 21,300 - 14,200 - 7,175

618. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 15:08:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a3d938f7-d468-4cf8-846e-96507755e773@f31g2000pri.googlegroups.com>
Source record: 5419

On Mar 23, 5:55 pm, Richard Fry <r...@adams.net> wrote:
> Also this link to a page from John Kraus' ANTENNAS FOR ALL
> APPLICATIONS, 3rd
Edition:http://i62.photobucket.com/albums/h85/rfry-100/Helically-woundVertica...

Kraus' short resonant normal-mode helical antenna uses close to 1/4WL
of conductor. We know that because of adjacent turn coupling, when a
conductor is coiled into a helical configuration, more conductor is
required to maintain a constant electrical length, e.g. 90 degrees in
this case. I suspect that Kraus' helical antenna example would be
resonant at about 1.8 times the design frequency rather than at the
design frequency. Please note the last line in the Kraus quote
regarding the advantage of a helix.

Since a helical monopole is 90 degrees long at the design frequency,
one wonders if half of the helix would be 45 degrees long at the
design frequency? And if the missing half of the antenna were replaced
by a whip to return to the original resonant frequency, why wouldn't
we have a base loaded antenna with the base loading coil occupying 45
degrees?
--
73, Cecil, w5dxp.com

619. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 16:05:09 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <fce19883-1dae-43a1-8177-0efc5d7ce4fd@i14g2000yqe.googlegroups.com>
Source record: 5420

On 23 mar, 23:55, Richard Fry <r...@adams.net> wrote:
> A few years ago there was some discussion on r.r.a.a. about helically-
> wound, normal-mode monopoles, and the rather common expectation that
> they had higher gain than a linear monopole of the same physical
> height (and with other things equal).
>
> A recent NEC-2 analysis of this topic might be of
interest:http://i62.photobucket.com/albums/h85/rfry-100/Helix_vs_Linear_Monopo...
> .
>
> Also this link to a page from John Kraus' ANTENNAS FOR ALL
> APPLICATIONS, 3rd
Edition:http://i62.photobucket.com/albums/h85/rfry-100/Helically-woundVertica...
> .
>
> //

Hello Richard,

Maybe there is confusion between gain and directivity.

When there is no change in the phase of the current, and overall
physical length << 0.25 lambda, directivity will be 1.76 dBi (or 4.76
dB over perfect electrical conducting ground).

I can imagine that part of the matching can be in the helix (lots of
copper) so that the ohmic loss may be less w.r.t. to a lumped coil at
the feed point. If so, the gain of the helix can be higher.

If you can make the helix electrically longer then 0.25 lambda (so
that current maximum is not in the feed point, but for example in the
middle), directivity will not change, but ground loss will reduce as
the helix will have high Re(Zin).

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

620. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 16:28:03 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com>
Source record: 5421

On 24 mar, 10:53, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "This finding had practical applications for telegraph communications. For
> example, Heaviside actually solved one of the biggest problems affecting
> long distance telegraph and telephone communication in 1887 -distortion. It
> was known that different frequencies travel with different speeds on a long
> cable. For example, the low bass frequencies in a voice signal travel faster
> than the high treble frequencies. When the cable is long enough, the
> frequencies smear, and both voice and telegraph signals become garbled
> noise. Heaviside used his equations to show that if inductances (i.e., a
> small coil of wire) were added along the length of the cable, the distortion
> could be reduced." From:http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>
> " It was known that different frequencies travel with different speeds on a
> long cable".
>
> Is the same in air and space?
> S*

Hello Szczepan,

Search for the effective permittivity of media with free electrons
(plasma). You will see that the effective permittivity changes with
frequency, hence the phase velocity. Don't look strange to find
apparent permittivities below the value for vacuum.

Just ignore DC magnetic field as this complicates that math
significantly.

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

621. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 16:36:35 UTC
From: nm5k@wt.net
Message-ID: <7c5a4cea-b2d1-409d-9cde-e5db527fefce@glegroupsg2000goo.googlegroups.com>
Source record: 5422

On Wednesday, March 23, 2011 4:55:40 PM UTC-6, Richard Fry wrote:
> A few years ago there was some discussion on r.r.a.a. about helically-
> wound, normal-mode monopoles, and the rather common expectation that
> they had higher gain than a linear monopole of the same physical
> height (and with other things equal).

I was always under the assumption that the helical whip was
less efficient than the same height whip loaded with a lumped coil.
I NEVER thought the helical whip had the advantage. And so far my
experience with the mobile whips seems to show that an efficient
lumped coil has the advantage.
>
> A recent NEC-2 analysis of this topic might be of interest:
> http://i62.photobucket.com/albums/h85/rfry-100/Helix_vs_Linear_Monopole.gif

Where is the coil on the linear monopole? Seems to be a flawed
example to me. The helical example is loaded, but the linear is not?
What kind of comparison would that be to jive with the real world?
Of course, most will find that the location of the lumped coil
on a whip will effect efficiency and current distribution.
IE: the center loaded whip will generally have an advantage over
a base loaded whip.

A helical loaded whip can be a decent antenna, but I've always
had better results using the lumped coil.
Also, a helical whip needs some capacitive loading "IE: decent
length whip above the helical windings" to live up to it's
expectations. The helical whips with windings all the way to
the top doesn't do so well.

Also, the manner in which a helical whip is wound will effect
current distribution. It's best to maximize the windings near
the top rather than use a constant pitch the whole whip.
Much in the same manner that a lumped coil whip usually does
better with a center or higher mounted coil vs a base load.

If a helical winding was as efficient as a lumped coil, I
would not have converted my helical wound whips to lumped
coils. And if this were true, I would not have noticed any
difference when I did. But I did notice a difference.
So I think I will stick with the lumped coils.

I don't foresee a mad rush by the bugcatcher users to
convert to ham sticks any time soon. :/

622. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 16:57:40 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <imft67jpq1@dont-email.me>
Source record: 5423

>Since a helical monopole is 90 degrees long at the design frequency,..

It may have ~ zero reactance, as does a linear ~ 90-degree monopole, but the helix will not have the radiation resistance of the linear version, as John Kraus pointed out in the linked page.

Radiation resistance is a function of the end-end length of the helix and the frequency, whether the helix is self-resonant or not. The radiation resistance of the resonant helix in Kraus' example is much lower than that of a series-fed, 1/4-wave, linear monopole.

623. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 17:42:48 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8b82a3$0$2444$65785112@news.neostrada.pl>
Source record: 5424

"Wimpie" <wimabctel@tetech.nl> napisal w wiadomosci
news:470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com...
> On 24 mar, 10:53, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> "This finding had practical applications for telegraph communications.
>> For
>> example, Heaviside actually solved one of the biggest problems affecting
>> long distance telegraph and telephone communication in 1887 -distortion.
>> It
>> was known that different frequencies travel with different speeds on a
>> long
>> cable. For example, the low bass frequencies in a voice signal travel
>> faster
>> than the high treble frequencies. When the cable is long enough, the
>> frequencies smear, and both voice and telegraph signals become garbled
>> noise. Heaviside used his equations to show that if inductances (i.e., a
>> small coil of wire) were added along the length of the cable, the
>> distortion
>> could be reduced."
>> From:http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>>
>> " It was known that different frequencies travel with different speeds on
>> a
>> long cable".
>>
>> Is the same in air and space?
>> S*
>
> Hello Szczepan,
>
> Search for the effective permittivity of media with free electrons
> (plasma). You will see that the effective permittivity changes with
> frequency, hence the phase velocity. Don't look strange to find
> apparent permittivities below the value for vacuum.
>
> Just ignore DC magnetic field as this complicates that math
> significantly.

Hello Wim,

So you confirm that in plasma is the same as in metal.

But what with the space. The AM should be better than FM to communicate with
the Mars.
Is/were FM used for long distances?

Were done the proper experiments in the early years of radio?
S*
>

624. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 17:43:49 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <imfvsp$2es$1@dont-email.me>
Source record: 5425

> Where is the coil on the linear monopole? Seems to be a flawed
> example to me. The helical example is loaded, but the linear is not?

Regardless of the loss in a loading coil for the linear monopole (and actually the helix would need one also), the salient point here is that even though the conductor in the helix is 3.14 X longer than in the monopole, the radiation resistance and pattern of the two forms for a given frequency is the same for the same end-end length -- as shown in the comparison.

It is the relation of the radiation resistance to the other resistances (mainly the matching network loss and the r-f ground terminal loss) that determines the radiation efficiency of the complete antenna system.

Some might think that the radiation resistance of the helix in this model is determined by the length of the conductor from which it is wound, but that isn't the case.

625. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 17:57:16 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8b85fe$0$2500$65785112@news.neostrada.pl>
Source record: 5426

"david" <none@nospam.com> napisa&#65533; w wiadomo&#65533;ci
news:imf6s9$q5g$1@dont-email.me...
> On Thu, 24 Mar 2011 10:53:09 +0100, Szczepan Bialek rearranged some
> electrons to say:
>
>
>> " It was known that different frequencies travel with different speeds
>> on a long cable".
>>
>> Is the same in air and space?
>> S*
>
> No, how many people have to tell you that?

And what they tell:
"Because of the low signal-to-noise ratio, as with amateur-radio practice, EME signals can generally only be detected using narrow-band receiving systems. This means that the only aspect of the TV signal that could be detected is the field scan modulation (AM vision carrier). FM broadcast signals also feature wide frequency modulation, hence EME reception is generally not possible. There are no published records of VHF/UHF EME amateur radio contacts using FM." From:
http://en.wikipedia.org/wiki/TV_and_FM_DX

Could you explain it?

S*

626. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 18:06:27 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cfd39d3c-6079-454b-a359-238c3e06731b@u8g2000yqh.googlegroups.com>
Source record: 5427

On 24 mar, 18:42, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Wimpie" <wimabc...@tetech.nl> napisal w
wiadomoscinews:470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com...
>
>
>
> > On 24 mar, 10:53, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >> "This finding had practical applications for telegraph communications.
> >> For
> >> example, Heaviside actually solved one of the biggest problems affecting
> >> long distance telegraph and telephone communication in 1887 -distortion.
> >> It
> >> was known that different frequencies travel with different speeds on a
> >> long
> >> cable. For example, the low bass frequencies in a voice signal travel
> >> faster
> >> than the high treble frequencies. When the cable is long enough, the
> >> frequencies smear, and both voice and telegraph signals become garbled
> >> noise. Heaviside used his equations to show that if inductances (i.e., a
> >> small coil of wire) were added along the length of the cable, the
> >> distortion
> >> could be reduced."
> >> From:http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>
> >> " It was known that different frequencies travel with different speeds on
> >> a
> >> long cable".
>
> >> Is the same in air and space?
> >> S*
>
> > Hello Szczepan,
>
> > Search for the effective permittivity of media with free electrons
> > (plasma). You will see that the effective permittivity changes with
> > frequency, hence the phase velocity. Don't look strange to find
> > apparent permittivities below the value for vacuum.
>
> > Just ignore DC magnetic field as this complicates that math
> > significantly.
>
> Hello Wim,
>
> So you confirm that in plasma is the same as in metal.

No

>
> But what with the space. The AM should be better than FM to communicate with
> the Mars.
> Is/were FM used for long distances?

As power is limiting factor, a modulation scheme with coherent
detection and digital decoding will give best performance (best Eb/N0
ratio for certain BER) I think. So it is not just a question of AM or
FM/PM, but more how it is processed at the receiver. Processing power
changed over time, so theoretically the best method may not be used
because of technical limitations.
>
> Were done the proper experiments in the early years of radio?
> S*

Best regards,

Wim
PA3DJS
www.tetech.nl

627. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 18:06:44 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <kqds58-14s.ln1@mail.specsol.com>
Source record: 5428

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "david" <none@nospam.com> napisa? w wiadomo?ci
> news:imf6s9$q5g$1@dont-email.me...
>> On Thu, 24 Mar 2011 10:53:09 +0100, Szczepan Bialek rearranged some
>> electrons to say:
>>
>>
>>> " It was known that different frequencies travel with different speeds
>>> on a long cable".
>>>
>>> Is the same in air and space?
>>> S*
>>
>> No, how many people have to tell you that?
>
> And what they tell:
> "Because of the low signal-to-noise ratio, as with amateur-radio practice,
> EME signals can generally only be detected using narrow-band receiving
> systems. This means that the only aspect of the TV signal that could be
> detected is the field scan modulation (AM vision carrier). FM broadcast
> signals also feature wide frequency modulation, hence EME reception is
> generally not possible. There are no published records of VHF/UHF EME
> amateur radio contacts using FM." From:
> http://en.wikipedia.org/wiki/TV_and_FM_DX
>
> Could you explain it?

Explain what?

You quote has absolutely nothing to do with the speed of propagation, you
babbling moron.

--
Jim Pennino

Remove .spam.sux to reply.

628. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 18:29:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f66b3704-dc47-45e4-8810-261127a2ae22@o20g2000yqk.googlegroups.com>
Source record: 5429

On Mar 24, 11:57 am, "Richard Fry" <Inva...@Invalid.com> wrote:
> Radiation resistance is a function of the end-end length of the helix and
> the frequency, whether the helix is self-resonant or not.

Yes, I thought that was the purpose of your posting. As Kraus said,
the helical has an advantage over a short straight conductor - same
radiation resistance with less reactance. The radiation resistance of
a 6" long Texas Bugcatcher coil is approximately the same as a 6"
piece of wire.
--
73, Cecil, w5dxp.com

629. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 22:35:07 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <imgguu$3ei$1@dont-email.me>
Source record: 5430

Cecil Moore wrote:
>... The radiation resistance of a 6" long Texas Bugcatcher coil
> is approximately the same as a 6" piece of wire.

We agree on that point, Cecil.

But if, as if you posted earlier, "a helical monopole is 90 degrees long at the design frequency," are you claiming that such a short, self-resonant, normal-mode, helical monopole has the same radiation resistance and system performance as a self-resonant linear monopole of about 1/4 of a free-space wavelength (other things equal)?

And if you do, could you please explain why this approach was not adopted many decades ago for use by AM broadcast stations?

630. Re: Need Diamond X50a ground radial dimension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 23:24:31 UTC
From: Channel Jumper <Channel.Jumper.7d1d9d8@radiobanter.com>
Message-ID: <Channel.Jumper.7d1d9d8@radiobanter.com>
Source record: 5435

'Jeff Liebermann[_2_ Wrote:
> ;737205']Another day in antenna hell. This time, I needed a 440Mhz
> antenna for
> a temporary repeater installation. My last remaining antenna a rather
> broken Diamond X50a. The previous owner leaned the antenna against a
> wall, and then backed his car into it, breaking the fiberglass radome
> and bending the guts. I managed to unmangle the antenna and epoxy the
> radome, but somewhere in the shuffle, the ground radials disappeared.
> Duz anyone have an X50a handy that can measure the length of the
> ground radials (from the aluminum base casting to the end)? The
> current random length welding rods (with toothpicks jammed into the
> holes) are not going to last.
>
>
>
> --
> # Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
> # 831-336-2558
> # http://802.11junk.com jeffl@cruzio.com
> # http://www.LearnByDestroying.com AE6KS

I have a relative in the communications business who would tell you to
throw it away.
The reason is - unless you are going to hook it up to a junk radio
-there is no reason to use a junk antenna unless the radio is of no
value to you.

Moores law tells me that it is probably past it's prime and it probably
isn't going to last very long anyways.

A friend of mine has a antenna that sounds identical to the one you are
trying to repair and the lengths on his antenna looks to be 12 inches.

I have not taken it down to physically measure it, but we are about to
move it in a month or two and if you still need the exact measurement -
I will get it for you.

I am surprised that the manufacturer didn't offer give you the
dimensions.
Diamond X50 - radial / part number 07003
http://www.rfparts.com/diamond/x50a.html

73's
Jerry

--
Channel Jumper

631. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-24 23:35:03 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <75bac10a-d52a-4de0-8f89-d4cb1b4db63b@g10g2000yqj.googlegroups.com>
Source record: 5431

Hello,

On 24 mar, 17:36, n...@wt.net wrote:
> On Wednesday, March 23, 2011 4:55:40 PM UTC-6, Richard Fry wrote:
> > A few years ago there was some discussion on r.r.a.a. about helically-
> > wound, normal-mode monopoles, and the rather common expectation that
> > they had higher gain than a linear monopole of the same physical
> > height (and with other things equal).
>
> I was always under the assumption that the helical whip was
> less efficient than the same height whip loaded with a lumped coil.
> I NEVER thought the helical whip had the advantage. And so far my
> experience with the mobile whips seems to show that an efficient
> lumped coil has the advantage.
>
>
>
> > A recent NEC-2 analysis of this topic might be of interest:
> >http://i62.photobucket.com/albums/h85/rfry-100/Helix_vs_Linear_Monopo...
>
> Where is the coil on the linear monopole? Seems to be a flawed
> example to me.

When you put a losless inductor in series, gain and radiation pattern
doesn't change, so the simulation is useful.

The helical requries less series inductance as the capacitive
component is less (-j2080 versus -2970), so you save on the inductor
loss (for the helical case).

> The helical example is loaded, but the linear is not?
> What kind of comparison would that be to jive with the real world?
> Of course, most will find that the location of the lumped coil
> on a whip will effect efficiency and current distribution.
> IE: the center loaded whip will generally have an advantage over
> a base loaded whip.
>
> A helical loaded whip can be a decent antenna, but I've always
> had better results using the lumped coil.
> Also, a helical whip needs some capacitive loading "IE: decent
> length whip above the helical windings" to live up to it's
> expectations. The helical whips with windings all the way to
> the top doesn't do so well.
>
> Also, the manner in which a helical whip is wound will effect

> current distribution. It's best to maximize the windings near
> the top rather than use a constant pitch the whole whip.
> Much in the same manner that a lumped coil whip usually does
> better with a center or higher mounted coil vs a base load.
>
> If a helical winding was as efficient as a lumped coil, I
> would not have converted my helical wound whips to lumped
> coils. And if this were true, I would not have noticed any
> difference when I did. But I did notice a difference.
> So I think I will stick with the lumped coils.
>
> I don't foresee a mad rush by the bugcatcher users to
> convert to ham sticks any time soon. :/

For me, the disadvantage of the helical is the thickness and weight of the construction.

Wim
PA3DJS

632. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 01:34:48 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <imgrfo$as3u$1@tr22n12.aset.psu.edu>
Source record: 5432

On 3/19/2011 11:45 AM, Szczepan Bialek wrote:

>>
>> The idea that "we" have a transmitter on Mars notwithstanding, Jupiter
>> has been transmitting RF for a long time. There are enough other
>> spacecraft running around in our solar system, and certainly if radio
>> waves traveled at some other velocity than what we thought they did,
>
> Not we but you.

No, not at all. The problem with all the folks who have these strange desires to debunk basic physics is this:

Things are connected.

When people come up with theorys/conspiracies or whatever that sopmething we thought we knew is so completely wrong, it is a mark of thier ignorance that they don't realize that there is more than one thing negated if they are correct. Want a different speed of radio compared to light - or rather I should say faster than C ? Better be prepared to abandon most of what we already know.

So in the end, we're left with either a remarkable ignorance, willful stupidity, a creationist agenda, or else that ever loving fun interactive game of arguing with the computer.

- 73 de Mike N3LI -

633. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 01:43:07 UTC
From: tom <news4792@taring.org>
Message-ID: <4d8bf328$0$6701$8046368a@newsreader.iphouse.net>
Source record: 5433

On 3/24/2011 1:06 PM, Wimpie wrote:
> On 24 mar, 18:42, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> "Wimpie"<wimabc...@tetech.nl> napisal w
wiadomoscinews:470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com...
>>
>> But what with the space. The AM should be better than FM to communicate with
>> the Mars.
>> Is/were FM used for long distances?
>
> As power is limiting factor, a modulation scheme with coherent
> detection and digital decoding will give best performance (best Eb/N0
> ratio for certain BER) I think. So it is not just a question of AM or
> FM/PM, but more how it is processed at the receiver. Processing power
> changed over time, so theoretically the best method may not be used
> because of technical limitations.
>>
>> Were done the proper experiments in the early years of radio?
>> S*
>
> Best regards,
>
> Wim
> PA3DJS
> www.tetech.nl
>

There's a non-zero chance you went beyond his knowledge base. :) (no ;
needed)

tom
K0TAR

634. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 01:51:24 UTC
From: tom <news4792@taring.org>
Message-ID: <4d8bf519$0$87582$8046368a@newsreader.iphouse.net>
Source record: 5434

On 3/24/2011 8:34 PM, Mike Coslo wrote:
> Things are connected.
>
> When people come up with theorys/conspiracies or whatever that
> sopmething we thought we knew is so completely wrong, it is a mark of
> thier ignorance that they don't realize that there is more than one
> thing negated if they are correct. Want a different speed of radio
> compared to light - or rather I should say faster than C ? Better be
> prepared to abandon most of what we already know.
>
> So in the end, we're left with either a remarkable ignorance, willful
> stupidity, a creationist agenda, or else that ever loving fun
> interactive game of arguing with the computer.
>
> - 73 de Mike N3LI -

Wait. Are you saying Science Fiction isn't real?

Next thing you'll pull out of your hat is Divining Rods can't locate water!

Or, Bog forbid, Vaccines don't cause Autism.

tom
K0TAR

635. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 09:17:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8c5dc5$0$2443$65785112@news.neostrada.pl>
Source record: 5436

```
Uzytkownik "Wimpie" <wimabctel@tetech.nl> napisal w wiadomosci
news:cfd39d3c-6079-454b-a359-238c3e06731b@u8g2000yqh.googlegroups.com...
On 24 mar, 18:42, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Wimpie" <wimabc...@tetech.nl> napisal w
> wiadomoscinews:470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com...
>
>
>
> > On 24 mar, 10:53, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >> "This finding had practical applications for telegraph communications.
> >> For
> >> example, Heaviside actually solved one of the biggest problems
> >> affecting
> >> long distance telegraph and telephone communication in
> >> 1887 -distortion.
> >> It
> >> was known that different frequencies travel with different speeds on a
> >> long
> >> cable. For example, the low bass frequencies in a voice signal travel
> >> faster
> >> than the high treble frequencies. When the cable is long enough, the
> >> frequencies smear, and both voice and telegraph signals become garbled
> >> noise. Heaviside used his equations to show that if inductances (i.e.,
> >> a
> >> small coil of wire) were added along the length of the cable, the
> >> distortion
> >> could be reduced."
> >> From:http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>
> >> " It was known that different frequencies travel with different speeds
> >> on
> >> a
> >> long cable".
>
> >> Is the same in air and space?
> >> S*
>
> > Hello Szczepan,
>
> > Search for the effective permittivity of media with free electrons
> > (plasma). You will see that the effective permittivity changes with
> > frequency, hence the phase velocity. Don't look strange to find
> > apparent permittivities below the value for vacuum.
>
```

> > Just ignore DC magnetic field as this complicates that math
> > significantly.
>
> Hello Wim,
>
> So you confirm that in plasma is the same as in metal.

No

>
> But what with the space. The AM should be better than FM to communicate
> with
> the Mars.
> Is/were FM used for long distances?

As power is limiting factor, a modulation scheme with coherent
detection and digital decoding will give best performance (best Eb/N0
ratio for certain BER) I think. So it is not just a question of AM or
FM/PM, but more how it is processed at the receiver. Processing power
changed over time, so theoretically the best method may not be used
because of technical limitations.
>
> Were done the proper experiments in the early years of radio?
> S*

Best regards,

Wim

I am simple asking if radio people have trouble with the fact that the speed
of waves are frequeny dependent.
I am interesting with the real radio waves in the real media. Here is an
example Pulsars are spinning neutron stars that emit pulses at very regular
intervals ranging from milliseconds to seconds. Astronomers believe that the
pulses are emitted simultaneously over a wide range of frequencies. However,
as observed on Earth, the components of each pulse emitted at higher radio
frequencies arrive before those emitted at lower frequencies. This
dispersion occurs because of the ionised component of the interstellar
medium, which makes the group velocity frequency dependent

S

636. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 09:28:12 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <imhn7e$f5u$1@dont-email.me>
Source record: 5437

<nm5k@wt.net> wrote
> Where is the coil on the linear monopole?

Sorry, I forgot to address this question directly. Both radiators were base fed.

As shown at the top of that comparison page, a total of 30 ohms was included in each NEC model to account for the loss in the connection to r-f ground, and in the loading coil. That is why the maximum gain of both models is about -19.5 dBi, rather than 4.77 dBi.

637. Re: Radio waves faster than light

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 09:31:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8c6102$0$2442$65785112@news.neostrada.pl>
Source record: 5438

"Mike Coslo" <mjc5@psu.edu> napisal w wiadomosci
news:imgrfo$as3u$1@tr22n12.aset.psu.edu...
> On 3/19/2011 11:45 AM, Szczepan Bialek wrote:
>
>>>
>>> The idea that "we" have a transmitter on Mars notwithstanding, Jupiter
>>> has been transmitting RF for a long time. There are enough other
>>> spacecraft running around in our solar system, and certainly if radio
>>> waves traveled at some other velocity than what we thought they did,
>>
>> Not we but you.
>
> No, not at all. The problem with all the folks who have these strange
> desires to debunk basic physics is this:
>
> Things are connected.
>
> When people come up with theorys/conspiracies or whatever that sopmething
> we thought we knew is so completely wrong, it is a mark of thier ignorance
> that they don't realize that there is more than one thing negated if they
> are correct. Want a different speed of radio compared to light - or rather
> I should say faster than C ?

We have the two C. One of them is a constant in the wave equation.
The second is a speed of light. It is different in different media and the
frequency dependent. Also in space. An example Pulsars are spinning neutron
stars that emit pulses at very regular intervals ranging from milliseconds
to seconds. Astronomers believe that the pulses are emitted simultaneously
over a wide range of frequencies. However, as observed on Earth, the
components of each pulse emitted at higher radio frequencies arrive before
those emitted at lower frequencies. This dispersion occurs because of the
ionised component of the interstellar medium, which makes the group velocity
frequency dependent.
S*

638. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 11:36:26 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <329de0f4-1d02-4fd2-99f7-6e1afa4f14e1@t19g2000prd.googlegroups.com>
Source record: 5439

On Mar 24, 5:35 pm, "Richard Fry" <Inva...@Invalid.com> wrote:
> But if, as if you posted earlier, "a helical monopole is 90 degrees long at
> the design frequency," are you claiming that such a short, self-resonant,
> normal-mode, helical monopole has the same radiation resistance and system
> performance as a self-resonant linear monopole of about 1/4 of a free-space
> wavelength (other things equal)?

Absolutely not. I am claiming that a 1/8WL long *resonant* helical is
electrically 90 degrees long and has approximately the same radiation
resistance as a 1/8WL straight piece of wire. Radiation resistance and
linear *physical* length are correlated. Radiation resistance and
electrical length are NOT correlated. As I said previously
(concerning standing wave antennas) the feedpoint impedance is
associated with the electrical length of the antenna. Radiation is
associated with the physical length of the antenna.
--
73, Cecil, w5dxp.com

639. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 12:54:33 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7700fa48-9ae9-4a53-ae92-177fbbc96303@l18g2000yqm.googlegroups.com>
Source record: 5440

On 25 mar, 10:17, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Wimpie" <wimabc...@tetech.nl> napisal w
wiadomoscinews:cfd39d3c-6079-454b-a359-238c3e06731b@u8g2000yqh.googlegroups.com...
> On 24 mar, 18:42, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "Wimpie" <wimabc...@tetech.nl> napisal w
> > wiadomoscinews:470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com...
>
> > > On 24 mar, 10:53, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> > >> "This finding had practical applications for telegraph communications.
> > >> For
> > >> example, Heaviside actually solved one of the biggest problems
> > >> affecting
> > >> long distance telegraph and telephone communication in
> > >> 1887 -distortion.
> > >> It
> > >> was known that different frequencies travel with different speeds on a
> > >> long
> > >> cable. For example, the low bass frequencies in a voice signal travel
> > >> faster
> > >> than the high treble frequencies. When the cable is long enough, the
> > >> frequencies smear, and both voice and telegraph signals become garbled
> > >> noise. Heaviside used his equations to show that if inductances (i.e.,
> > >> a
> > >> small coil of wire) were added along the length of the cable, the
> > >> distortion
> > >> could be reduced."
> > >> From:http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>
> > >> " It was known that different frequencies travel with different speeds
> > >> on
> > >> a
> > >> long cable".
>
> > >> Is the same in air and space?
> > >> S*
>
> > > Hello Szczepan,
>
> > > Search for the effective permittivity of media with free electrons
> > > (plasma). You will see that the effective permittivity changes with
> > > frequency, hence the phase velocity. Don't look strange to find

> > > apparent permittivities below the value for vacuum.
>
> > > Just ignore DC magnetic field as this complicates that math
> > > significantly.
>
> > Hello Wim,
>
> > So you confirm that in plasma is the same as in metal.
>
> No
>
>
>
> > But what with the space. The AM should be better than FM to communicate
> > with
> > the Mars.
> > Is/were FM used for long distances?
>
> As power is limiting factor, a modulation scheme with coherent
> detection and digital decoding will give best performance (best Eb/N0
> ratio for certain BER) I think. So it is not just a question of AM or
> FM/PM, but more how it is processed at the receiver. Processing power
> changed over time, so theoretically the best method may not be used
> because of technical limitations.
>
>
>
> > Were done the proper experiments in the early years of radio?
> > S*
>
> Best regards,
>
> Wim
>
> I am simple asking if radio people have trouble with the fact that the speed
> of waves are frequeny dependent.
> I am interesting with the real radio waves in the real media. Here is an
> example Pulsars are spinning neutron stars that emit pulses at very regular
> intervals ranging from milliseconds to seconds. Astronomers believe that the
> pulses are emitted simultaneously over a wide range of frequencies. However,
> as observed on Earth, the components of each pulse emitted at higher radio
> frequencies arrive before those emitted at lower frequencies. This
> dispersion occurs because of the ionised component of the interstellar
> medium, which makes the group velocity frequency dependent
>
> S

Try to find document "Descanso4--Voyager_new.pdf" (very likely the
first result in google). This describes the Voyager communication
system. It is now more the 10 light hours from us (as far as I

know).

As far as I know, they don't equalize to correct for in band dispersion (due to wave propagation). Maybe other people have better info on this.

Best regards,

Wim
PA3DJS
www.tetech.nl

640. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 14:52:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8cac24$0$2486$65785112@news.neostrada.pl>
Source record: 5441

"Wimpie" <wimabctel@tetech.nl> napisal w wiadomosci
news:7700fa48-9ae9-4a53-ae92-177fbbc96303@l18g2000yqm.googlegroups.com...
On 25 mar, 10:17, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> I am simple asking if radio people have trouble with the fact that the
>> speed
> of waves are frequeny dependent.
>> I am interesting with the real radio waves in the real media. Here is an
> example: "Pulsars are spinning neutron stars that emit pulses at very
> regular
> intervals ranging from milliseconds to seconds. Astronomers believe that
> the
> pulses are emitted simultaneously over a wide range of frequencies.
> However,
> as observed on Earth, the components of each pulse emitted at higher radio
> frequencies arrive before those emitted at lower frequencies. This
> dispersion occurs because of the ionised component of the interstellar
> medium, which makes the group velocity frequency dependent".
>
> S

>Try to find document "Descanso4--Voyager_new.pdf" (very likely the
first result in google). This describes the Voyager communication
system. It is now more the 10 light hours from us (as far as I
know).

>As far as I know, they don't equalize to correct for in band
dispersion (due to wave propagation). Maybe other people have better
info on this.

They used the "Ultrastable oscillator".
They measure the ions and electrons density in the interstellar medium. So
the band dispersion is obvious and the only remedy is the "Ultrastable
oscillator".

So AM and FM are quite opposite. It seems to me that FM is not the best for
the long distances.

It seems to me that here is a confirmation of that: ""Because of the low
signal-to-noise ratio, as with amateur-radio practice,
EME signals can generally only be detected using narrow-band receiving
systems. This means that the only aspect of the TV signal that could be
detected is the field scan modulation (AM vision carrier). FM broadcast
signals also feature wide frequency modulation, hence EME reception is
generally not possible. There are no published records of VHF/UHF EME
amateur radio contacts using FM." From:

http://en.wikipedia.org/wiki/TV_and_FM_DX

I do not understand this but guess.

Best regards,

S*

641. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 14:53:56 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <hu9po6ttvji1e9a6c2dgfeh8csjl2skntd@4ax.com>
Source record: 5442

On Fri, 25 Mar 2011 04:36:26 -0700 (PDT), Cecil Moore
<w5dxp@hotmail.com> wrote:

>On Mar 24, 5:35ï¿½pm, "Richard Fry" <Inva...@Invalid.com> wrote:
>> But if, as if you posted earlier, "a helical monopole is 90 degrees long at
>> the design frequency," are you claiming that such a short, self-resonant,
>> normal-mode, helical monopole has the same radiation resistance and system
>> performance as a self-resonant linear monopole of about 1/4 of a free-space
>> wavelength (other things equal)?
>
>Absolutely not. I am claiming that a 1/8WL long *resonant* helical is
>electrically 90 degrees long and has approximately the same radiation
>resistance as a 1/8WL straight piece of wire. Radiation resistance and
>linear *physical* length are correlated. Radiation resistance and
>*electrical* length are NOT correlated. As I said previously
>(concerning standing wave antennas) the feedpoint impedance is
>associated with the electrical length of the antenna. Radiation is
>associated with the physical length of the antenna.

Cecil,
You frequently embed comments in your posts that I find especially
important to antenna basics.

I am starting a list of Antenna Axioms with this:

"Radiation resistance and linear *physical* length are correlated.
Radiation resistance and *electrical* length are NOT correlated. As I
said previously (concerning standing wave antennas) the feedpoint
impedance is associated with the electrical length of the antenna.
Radiation is associated with the physical length of the antenna.
--
73, Cecil, w5dxp.com"

As a student of antennas I do appreciate your stating the basic
principals in answering questions.

There are a lot of Hams who still think a short resonate dipole is
just as good as a full size dipole.

642. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 15:30:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <778c9b05-537b-49ce-b13a-39b2128a118c@u8g2000yqh.googlegroups.com>
Source record: 5443

On Mar 25, 9:53 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> There are a lot of Hams who still think a short resonate dipole is
> just as good as a full size dipole.

That would be true if everything was lossless. Unfortunately in the real world, a short dipole *system* almost always suffers more overall losses than a well-designed full size dipole *system*. In general, the shorter the dipole, the greater are the losses in the process of transferring energy from the source to the load. Short dipoles are indeed efficient radiators of the *energy delivered to the antenna*. The loss problems are in the energy transfer/delivery systems, not in the energy radiating system.

The reason that a high-Q center loading coil system has less loss than a 100% helical system is interesting. The impedance discontinuity at the loading-coil/whip junction yields a lossless phase shift that contributes to the electrical length of the antenna. It is a rare "something-for-nothing" gift from the Antenna Gods. :)
--
73, Cecil, w5dxp.com

643. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 15:46:55 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <f0qu58-278.ln1@mail.specsol.com>
Source record: 5445

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> I am simple asking if radio people have trouble with the fact that the speed
> of waves are frequeny dependent.

No, they are not because the speed of electromagnetic waves is NOT frequeny dependent, the speed is media dependent, you babbling, ignorant, trolling, moron.

--
Jim Pennino

Remove .spam.sux to reply.

644. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 15:58:52 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <5ea74bed-a090-462d-ac2b-7e4572e69ebc@x8g2000prh.googlegroups.com>
Source record: 5444

On Mar 24, 10:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Wimpie" <wimabc...@tetech.nl> napisal w
wiadomoscinews:470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com...
>
>
>
> > On 24 mar, 10:53, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >> "This finding had practical applications for telegraph communications.
> >> For
> >> example, Heaviside actually solved one of the biggest problems affecting
> >> long distance telegraph and telephone communication in 1887 -distortion.
> >> It
> >> was known that different frequencies travel with different speeds on a
> >> long
> >> cable. For example, the low bass frequencies in a voice signal travel
> >> faster
> >> than the high treble frequencies. When the cable is long enough, the
> >> frequencies smear, and both voice and telegraph signals become garbled
> >> noise. Heaviside used his equations to show that if inductances (i.e., a
> >> small coil of wire) were added along the length of the cable, the
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> >> could be reduced."
> >> From:http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>
> >> " It was known that different frequencies travel with different speeds on
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> >> long cable".
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> >> Is the same in air and space?
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>
> > Hello Szczepan,
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> > Search for the effective permittivity of media with free electrons
> > (plasma). You will see that the effective permittivity changes with
> > frequency, hence the phase velocity. Don't look strange to find
> > apparent permittivities below the value for vacuum.
>
> > Just ignore DC magnetic field as this complicates that math
> > significantly.
>
> Hello Wim,
>
> So you confirm that in plasma is the same as in metal.

>

No.. EM waves don't propagate very well in conductors..

> But what with the space. The AM should be better than FM to communicate with
> the Mars.
> Is/were FM used for long distances?
>
Today, phase modulation (BPSK, QPSK) is used for space. The primary driver for this is the desire for a constant envelope modulation that works with a saturated amplifier, for DC power efficiency reasons. It's also the best way to send information with a limit on peak power (i.e. the peak/average ratio is 1, and the SNR is constant)

BPSK with a non-180 degree phase shift (i.e. the carrier isn't totally suppressed) is used to allow acquiring and tracking the carrier in a low SNR environment. The carrier is tracked with a <1Hz BW tracking loop, and used to generate the return signal from the spacecraft in a coherent way. At X-band, the transmitted frequency is 880/749 times the received frequency. That carrier tracking and precise phase measurement is used to do accurate ranging and doppler measurements, which is how we know where the spacecraft is and make science measurements (e.g. precise orbit determination lets you infer the internal structure of the body about which you are orbiting, propagation measurements let you measure the properties of interplanetary space or the atmosphere of the body when you go into occultation, etc.)

recognize that deep space communications is probably one of the areas where modern technology gets closest to the Shannon-Hartley limit in low SNR environments. We may not be doing so hot in the bps/Hz high SNR area (where 64 QAM and similar things are popular), but in the "make it work on the ragged edge of detectability" we do pretty well.

645. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 16:11:35 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <ddb768ee-8f59-432f-85e2-6a57402d4463@t19g2000prd.googlegroups.com>
Source record: 5446

```
On Mar 25, 5:54 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 25 mar, 10:17, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > Uzytkownik "Wimpie" <wimabc...@tetech.nl> napisal w
wiadomoscinews:cfd39d3c-6079-454b-a359-238c3e06731b@u8g2000yqh.googlegroups.com...
> > On 24 mar, 18:42, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > "Wimpie" <wimabc...@tetech.nl> napisal w
> > > wiadomoscinews:470d4c83-349f-4cfd-b03a-ab5c1281b0dd@z20g2000yqe.googlegroups.com...
>
> > > > On 24 mar, 10:53, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> > > >> "This finding had practical applications for telegraph communications.
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> > > >> example, Heaviside actually solved one of the biggest problems
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> > > >> long distance telegraph and telephone communication in
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> > > >> It
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> > > >> cable. For example, the low bass frequencies in a voice signal travel
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> > > >> frequencies smear, and both voice and telegraph signals become garbled
> > > >> noise. Heaviside used his equations to show that if inductances (i.e.,
> > > >> a
> > > >> small coil of wire) were added along the length of the cable, the
> > > >> distortion
> > > >> could be reduced."
> > > >> From:http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>
> > > >> " It was known that different frequencies travel with different speeds
> > > >> on
> > > >> a
> > > >> long cable".
>
> > > >> Is the same in air and space?
> > > >> S*
>
> > > > Hello Szczepan,
>
> > > > Search for the effective permittivity of media with free electrons
```

> > > > (plasma). You will see that the effective permittivity changes with
> > > > frequency, hence the phase velocity. Don't look strange to find
> > > > apparent permittivities below the value for vacuum.
>
> > > > Just ignore DC magnetic field as this complicates that math
> > > > significantly.
>
> > > Hello Wim,
>
> > > So you confirm that in plasma is the same as in metal.
>
> > No
>
> > > But what with the space. The AM should be better than FM to communicate
> > > with
> > > the Mars.
> > > Is/were FM used for long distances?
>
> > As power is limiting factor, a modulation scheme with coherent
> > detection and digital decoding will give best performance (best Eb/N0
> > ratio for certain BER) I think. So it is not just a question of AM or
> > FM/PM, but more how it is processed at the receiver. Processing power
> > changed over time, so theoretically the best method may not be used
> > because of technical limitations.
>
> > > Were done the proper experiments in the early years of radio?
> > > S*
>
> > Best regards,
>
> > Wim
>
> > I am simple asking if radio people have trouble with the fact that the speed
> > of waves are frequeny dependent.
> > I am interesting with the real radio waves in the real media. Here is an
> > example Pulsars are spinning neutron stars that emit pulses at very regular
> > intervals ranging from milliseconds to seconds. Astronomers believe that the
> > pulses are emitted simultaneously over a wide range of frequencies. However,
> > as observed on Earth, the components of each pulse emitted at higher radio
> > frequencies arrive before those emitted at lower frequencies. This
> > dispersion occurs because of the ionised component of the interstellar
> > medium, which makes the group velocity frequency dependent
>
> > S
>
> Try to find document "Descanso4--Voyager_new.pdf" (very likely the
> first result in google). This describes the Voyager communication
> system. It is now more the 10 light hours from us (as far as I
> know).

The DESCANSO web site (http://descanso.jpl.nasa.gov/) has a variety of reports and books available for online/download/free use that discuss a lot of this stuff. Pretty much all the missions JPL has done in the past few decades have a "design and performance" report out there that describes the radio system and how it works. The monograph series has a bunch of books on some general aspect (like large antennas or autonomous radios).

the IPN progress reports (which has had various names over the years) is more a peer reviewed journal of record for various work in space communication, and all of it is freely downloadable, too.

>
> As far as I know, they don't equalize to correct for in band
> dispersion (due to wave propagation). Maybe other people have better
> info on this.
>

No compensation is made for dispersion.. the bandwidth of the signal is so narrow compared to the carrier frequency that dispersion in propagation isn't a factor. The bumps in the group delay characteristics of the radio components are orders of magnitude greater. To minimize that, we tend to use designs that keep the signal in the nominal center of the IF passband.

Where dispersion becomes interesting (and is actually measured) is when comparing signals at two separated frequencies, e.g. 8.4 GHz and 32 GHz. Or, for a closer to earth example, L1 & L2 for GPS (separated by a couple hundred MHz at 1500 MHz) allow for compensation for ionospheric delays.

646. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 16:13:36 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <34891a50-52cc-4cc6-b7e0-2ff55290eb99@f2g2000yqf.googlegroups.com>
Source record: 5447

On 25 mar, 15:52, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Wimpie" <wimabc...@tetech.nl> napisal w
wiadomoscinews:7700fa48-9ae9-4a53-ae92-177fbbc96303@l18g2000yqm.googlegroups.com...
> On 25 mar, 10:17, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> I am simple asking if radio people have trouble with the fact that the
> >> speed
> > of waves are frequeny dependent.
> >> I am interesting with the real radio waves in the real media. Here is an
> > example: "Pulsars are spinning neutron stars that emit pulses at very
> > regular
> > intervals ranging from milliseconds to seconds. Astronomers believe that
> > the
> > pulses are emitted simultaneously over a wide range of frequencies.
> > However,
> > as observed on Earth, the components of each pulse emitted at higher radio
> > frequencies arrive before those emitted at lower frequencies. This
> > dispersion occurs because of the ionised component of the interstellar
> > medium, which makes the group velocity frequency dependent".
>
> > S
> >Try to find document "Descanso4--Voyager_new.pdf" (very likely the
>
> first result in google). This describes the Voyager communication
> system. It is now more the 10 light hours from us (as far as I
> know).
>
> >As far as I know, they don't equalize to correct for in band
>
> dispersion (due to wave propagation). Maybe other people have better
> info on this.
>
> They used the "Ultrastable oscillator".
> They measure the ions and electrons density in the interstellar medium. So
> the band dispersion is obvious and the only remedy is the "Ultrastable
> oscillator".

Sorry, I don't see the link between "ultrastable oscillator" and
dispersion. Good oscillators in both transmitting and receiving
equipment are required to get the lowest possible Eb/No for your

digital modulation scheme.

>
> So AM and FM are quite opposite. It seems to me that FM is not the best for
> the long distances.
>
> It seems to me that here is a confirmation of that: ""Because of the low
> signal-to-noise ratio, as with amateur-radio practice,
> EME signals can generally only be detected using narrow-band receiving
> systems. This means that the only aspect of the TV signal that could be
> detected is the field scan modulation (AM vision carrier). FM broadcast
> signals also feature wide frequency modulation, hence EME reception is
> generally not possible. There are no published records of VHF/UHF EME
> amateur radio contacts using FM." From:http://en.wikipedia.org/wiki/TV_and_FM_DX
>
> I do not understand this but guess.
>

Low bit rates, result in low required power, so it is true that with
the advent of low bitrate digital schemes, EME is within the reach of
more radio amateurs. As these modes use narrow bandwidth, dispersion
effects are negligible when looking to the demodulation of the
received signal (as far as I know). Even amateurs using satellite
communication with analog voice, don't have to modify their
demodulators.

Wim
PA3DJS

647. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 16:26:34 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <d59aa8c2-8234-4f59-a4fe-18ca5d1c1795@o15g2000prn.googlegroups.com>
Source record: 5448

On Mar 25, 7:52 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Wimpie" <wimabc...@tetech.nl> napisal w
wiadomoscinews:7700fa48-9ae9-4a53-ae92-177fbbc96303@l18g2000yqm.googlegroups.com...
> On 25 mar, 10:17, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> I am simple asking if radio people have trouble with the fact that the
> >> speed
> > of waves are frequeny dependent.
> >> I am interesting with the real radio waves in the real media. Here is an
> > example: "Pulsars are spinning neutron stars that emit pulses at very
> > regular
> > intervals ranging from milliseconds to seconds. Astronomers believe that
> > the
> > pulses are emitted simultaneously over a wide range of frequencies.
> > However,
> > as observed on Earth, the components of each pulse emitted at higher radio
> > frequencies arrive before those emitted at lower frequencies. This
> > dispersion occurs because of the ionised component of the interstellar
> > medium, which makes the group velocity frequency dependent".
>
> > S
> >Try to find document "Descanso4--Voyager_new.pdf" (very likely the
>
> first result in google). This describes the Voyager communication
> system. It is now more the 10 light hours from us (as far as I
> know).
>
> >As far as I know, they don't equalize to correct for in band
>
> dispersion (due to wave propagation). Maybe other people have better
> info on this.
>
> They used the "Ultrastable oscillator".
> They measure the ions and electrons density in the interstellar medium. So
> the band dispersion is obvious and the only remedy is the "Ultrastable
> oscillator".

The USO has nothing to do with the dispersion. It's just something
that lets you make the measurement, because you can integrate over
100s of seconds, and know that the signal being transmitted didn't

change (much) during that time, so any changes are due to the
propagation.

>
> So AM and FM are quite opposite. It seems to me that FM is not the best for
> the long distances.
>
> It seems to me that here is a confirmation of that: ""Because of the low
> signal-to-noise ratio, as with amateur-radio practice,
> EME signals can generally only be detected using narrow-band receiving
> systems. This means that the only aspect of the TV signal that could be
> detected is the field scan modulation (AM vision carrier). FM broadcast
> signals also feature wide frequency modulation, hence EME reception is
> generally not possible. There are no published records of VHF/UHF EME
> amateur radio contacts using FM." From:http://en.wikipedia.org/wiki/TV_and_FM_DX
>

I don't know that I'd use a wikipedia article as my primary reference
on this particular topic.

The reason hams don't do EME FM or EME TV is more a matter of link
budgets than propagation characteristics. amateurs are limited in the
maximum output power (e.g. 1500W PEP in the U.S.), and particularly if
they're using amateur antennas (no 300m dish at Arecibo), you don't
have enough radiated power density to send a wideband signal and have
it arrive back at earth with decent SNR. So, hams use narrow band
transmissions and narrow band receivers (so that they get the minimum
noise power in the detection bandwidth). (also, there's a cultural
thing.. the hams that are interested in TV aren't the same hams
interested in moonbounce, so there's not necessarily and motivation to
even try what would be a fairly difficult and expensive stunt)

If you're not limited by amateur budgets or regulatory power limits,
there's no reason you couldn't send FM or TV to the moon and back.
Apollo used FM in their Unified S-band system (granted, one way from
the moon, not a moonbounce). I haven't run the numbers, but maybe if
you had a big enough transmitter, and used something like Arecibo, you
could do moonbounce tv.

We send several MHz bandwidth back from Mars with a 100W transmitter,
a 3 meter dish, and receive it with a 34 meter dish on earth at
greater than 0dB SNR.

A big advantage of AM is that it has simple and cheap transmitters (a
modulated amplifier) and receivers (a diode). If you're spending
billions of dollars to send a probe to Mars, saving (relatively) small
amounts on the radio isn't worth it, especially if you have to spend
large amounts more on solar panels to get the additional DC power
needed.

That said, for short range links in space, FM, FSK, and AM are
considered as viable alternatives, especially where you are looking

for very small, very low mass. The Muses CN rover (which was about the size of a pack of cards and was going to drive around an asteroid's surface) was proposed to use a FSK data link, as I recall. AM for astronaut backup voice comm is also a possibility.

648. Re: A3S/A743

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 16:40:14 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <d2a94792-7763-481e-a7be-e4650fcb672e@r19g2000prm.googlegroups.com>
Source record: 5449

On Mar 24, 7:59 am, "D@LS" <helms...@wowway.com/> wrote:
> On 24 Mar 2011 14:50:42 GMT, Allodoxaphobia
>
> <knock_yourself_...@example.net> wrote:
> >On Wed, 23 Mar 2011 20:05:55 -0400, D@LS wrote:
> >> Does anyone know the Radiation Angle of these antenna's (Cushcraft
> >> A3S/A743) at 33 feet or if there is a formula to calculate it ?
>
> >Different operating frequencies = different answers.
>
> 28,300 - 21,300 - 14,200 - 7,175

Are you looking for a comparison between the antennas? For most horizontally polarized low/medium gain antennas (which those are), the vertical (elevation) pattern is going to be almost entirely determined by the height above ground (so there won't be much difference)..

There is a formula (which I can't recall off the top of my head) which would give you the elevation angle of maximum gain for a given height. You might want to invest in a copy of the ARRL Antenna Book, which includes a program called HFTA which does the calculations and lets you do a lot of cut and try.

649. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 17:26:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8cd02b$0$2493$65785112@news.neostrada.pl>
Source record: 5450

<jimp@specsol.spam.sux.com> napisa&#65533; w wiadomo&#65533;ci
news:f0qu58-278.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
>> I am simple asking if radio people have trouble with the fact that the
>> speed
>> of waves are frequency dependent.
>
> No, they are not because the speed of electromagnetic waves is NOT
> frequency
> dependent, the speed is media dependent,

"In optics, dispersion is the phenomenon in which the phase velocity of a
wave depends on its frequency,["

S*

650. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 17:57:22 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8cd784$0$2443$65785112@news.neostrada.pl>
Source record: 5301

"Jim Lux" <jimlux@earthlink.net> napisal w wiadomosci
news:ddb768ee-8f59-432f-85e2-6a57402d4463@t19g2000prd.googlegroups.com...

>Where dispersion becomes interesting (and is actually measured) is
when comparing signals at two separated frequencies, e.g. 8.4 GHz and
32 GHz. Or, for a closer to earth example, L1 & L2 for GPS (separated
by a couple hundred MHz at 1500 MHz) allow for compensation for
ionospheric delays.

It is what I was looking for.
Speed of all waves are frequency, amplitude and temperature dependent.
I realize that for radio waves the effects are small. It seems that for
radio amateurs too small.
GPS is extremely precise and there the effects must be measured.
Thanks you very much.

Best Regards,
S*

651. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-25 17:58:43 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <ec39cde2-c20e-4934-a66e-0bb0d3d4015f@f2g2000yqf.googlegroups.com>
Source record: 5302

On 25 mar, 16:46, j...@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bia...@wp.pl> wrote:
> > I am simple asking if radio people have trouble with the fact that the speed
> > of waves are frequeny dependent.
>
> No, they are not because the speed of electromagnetic waves is NOT frequeny
> dependent, the speed is media dependent, you babbling, ignorant, trolling,
> moron.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

Hello Jim,

Given a certain medium, both phase and group velocity can be frequency dependent (example: ionosphere).

DRM uses OFDM to achieve very low baudrate to mitigate the dispersive behavior of ionospheric propopation. A least 88 subcarriers are in 10 kHz bandwidth.

Wim
PA3DJS
www.tetech.nl

652. Re: A3S/A743

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 01:49:02 UTC
From: "D@LS" <helmsman@wowway.com/>
Message-ID: <q2hqo6l00i4h5k46pnqn3d9c5iilid1c8q@4ax.com>
Source record: 5303

On Fri, 25 Mar 2011 09:40:14 -0700 (PDT), Jim Lux
<jimlux@earthlink.net> wrote:

>On Mar 24, 7:59ï¿½am, "D@LS" <helms...@wowway.com/> wrote:
>> On 24 Mar 2011 14:50:42 GMT, Allodoxaphobia
>>
>> <knock_yourself_...@example.net> wrote:
>> >On Wed, 23 Mar 2011 20:05:55 -0400, D@LS wrote:
>> >> Does anyone know the Radiation Angle of these antenna's ï¿½(Cushcraft
>> >> A3S/A743) at 33 feet or if there is a formula to calculate it ?
>>
>> >Different operating frequencies = different answers.
>>
>> 28,300 - 21,300 - 14,200 - 7,175
>
>Are you looking for a comparison between the antennas?

No, I already bought these antennas last year when I was very sick, so
I didn't check everything as I should have. I just wanted a close
number of degrees for the radiation angle. Cushcraft says they can't
hazard a guess. That's really poor. Just something close was all I was
after.

>For most
>horizontally polarized low/medium gain antennas (which those are), the
>vertical (elevation) pattern is going to be almost entirely determined
>by the height above ground (so there won't be much difference)..
>
>There is a formula (which I can't recall off the top of my head) which
>would give you the elevation angle of maximum gain for a given
>height. You might want to invest in a copy of the ARRL Antenna Book,
>which includes a program called HFTA which does the calculations and
>lets you do a lot of cut and try.

653. Re: Need Diamond X50a ground radial dimension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 01:58:49 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <jrgqo6lfbbrqmgtetug9qitstnpjvhqsl8@4ax.com>
Source record: 5304

On Thu, 24 Mar 2011 23:24:31 +0000, Channel Jumper
<Channel.Jumper.7d1d9d8@radiobanter.com> wrote:

>
>'Jeff Liebermann[_2_ Wrote:
>> ;737205']Another day in antenna hell. This time, I needed a 440Mhz
>> antenna for
>> a temporary repeater installation. My last remaining antenna a rather
>> broken Diamond X50a. The previous owner leaned the antenna against a
>> wall, and then backed his car into it, breaking the fiberglass radome
>> and bending the guts. I managed to unmangle the antenna and epoxy the
>> radome, but somewhere in the shuffle, the ground radials disappeared.
>> Duz anyone have an X50a handy that can measure the length of the
>> ground radials (from the aluminum base casting to the end)? The
>> current random length welding rods (with toothpicks jammed into the
>> holes) are not going to last.

>I have a relative in the communications business who would tell you to
>throw it away.
>The reason is - unless you are going to hook it up to a junk radio
>-there is no reason to use a junk antenna unless the radio is of no
>value to you.

Good advice, but doesn't apply in this case. I'm back into building
yet another repeater:
<http://802.11junk.com/jeffl/K6BJ-MSF5000/>
Due to a combination of club politics and my laziness, the repeater
will be tested at my house for a hopefully limited time.
Unfortunately, I couldn't find a suitable antenna and decided that the
trashed Diamond X50 was the least disgusting alternative to doing it
the right way. As long as it doesn't destroy the power amp with
excess VSWR, it should be fine for testing.

Various sympathetic friends have also offered to sell me spare
antennas. I could also build one (I'm partial to a center fed
Franklin/Amos antenna, but have only built these for 2.4Ghz, not
440Mhz).
<http://802.11junk.com/jeffl/antennas/AMOS-7/index.html>
But first, I need to finish some work, and complete my taxes.

>Moores law tells me that it is probably past it's prime and it probably
>isn't going to last very long anyways.

<http://en.wikipedia.org/wiki/Moore%27s_law>
Moore's law has to do with the number of xsistors on integrated
circuits, not the lifetime of my antennas and other abominations.

>A friend of mine has a antenna that sounds identical to the one you are
>trying to repair and the lengths on his antenna looks to be 12 inches.

I've seen several from the ground, but have been too lazy to climb the
towers or drop the poles in order to make the measurement.

>I have not taken it down to physically measure it, but we are about to
>move it in a month or two and if you still need the exact measurement -
>I will get it for you.

Thanks for the offer. I don't think it will be necessary but it would
be nice to know the real lengths. I fabricated some radials using
brass welding rods and found that the lengths are non-critical.
Scaling the length from a photo, I guessed high at about 10" and cut
them to 11". When I find the real dimensions, I'll cut them to size.

>I am surprised that the manufacturer didn't offer give you the
>dimensions.
>Diamond X50 - radial / part number 07003
>http://www.rfparts.com/diamond/x50a.html

Y'er right. I should have called RFparts.

Thanks much.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

654. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 05:02:25 UTC
From: Peter <pm@hotmail.com>
Message-ID: <IIKdnVEqj6sc7hDQnZ2dnUVZ8lKdnZ2d@westnet.com.au>
Source record: 5305

"vu2nan" <vu2nan.7c8f3b8@radiobanter.com> wrote in message
news:vu2nan.7c8f3b8@radiobanter.com...
>
> Here's another link.
http://members.optushome.com.au/vk6ysf/vk6ysf/5-8%20Ground%20Plane.htm

Cheers

Peter

655. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 11:36:23 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <kYf1inI3+cjNFwTH@b-howie.demon.co.uk>
Source record: 5306

In message <4d8b1485$0$2484$65785112@news.neostrada.pl>, Szczepan Bialek
<sz.bialek@wp.pl> writes
>"This finding had practical applications for telegraph communications. For
>example, Heaviside actually solved one of the biggest problems affecting
>long distance telegraph and telephone communication in 1887 -distortion. It
>was known that different frequencies travel with different speeds on a long
>cable. For example, the low bass frequencies in a voice signal travel faster
>than the high treble frequencies. When the cable is long enough, the
>frequencies smear, and both voice and telegraph signals become garbled
>noise. Heaviside used his equations to show that if inductances (i.e., a
>small coil of wire) were added along the length of the cable, the distortion
>could be reduced." From:
>http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>
>" It was known that different frequencies travel with different speeds on a
>long cable".
>
>Is the same in air and space?

Yes in air , and no in space.

B
--
Brian Howie

656. Re: A 5/8 λ mobile whip for 2m

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 14:49:47 UTC
From: vu2nan <vu2nan.7d3d418@radiobanter.com>
Message-ID: <vu2nan.7d3d418@radiobanter.com>
Source record: 5307

Peter;739162 Wrote:
> "vu2nan" vu2nan.7c8f3b8@radiobanter.com wrote in message
> news:vu2nan.7c8f3b8@radiobanter.com...-
>
> Here's another link.-
> http://tinyurl.com/4avdwzg
>
> Cheers
>
> Peter

Hi OM Peter,

Many thanks for the link. Great stuff for the homebrewer!

73

Nandu.

--
vu2nan

657. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 17:50:42 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d8e2774$0$2458$65785112@news.neostrada.pl>
Source record: 5308

"Brian Howie" <brian@nospam.demon.co.uk> napisal w wiadomosci
news:kYf1inI3+cjNFwTH@b-howie.demon.co.uk...
> In message <4d8b1485$0$2484$65785112@news.neostrada.pl>, Szczepan Bialek
> <sz.bialek@wp.pl> writes
>>"This finding had practical applications for telegraph communications. For
>>example, Heaviside actually solved one of the biggest problems affecting
>>long distance telegraph and telephone communication in 1887 -distortion.
>>It
>>was known that different frequencies travel with different speeds on a
>>long
>>cable. For example, the low bass frequencies in a voice signal travel
>>faster
>>than the high treble frequencies. When the cable is long enough, the
>>frequencies smear, and both voice and telegraph signals become garbled
>>noise. Heaviside used his equations to show that if inductances (i.e., a
>>small coil of wire) were added along the length of the cable, the
>>distortion
>>could be reduced." From:
>>http://www.ieeeghn.org/wiki/index.php/Oliver_Heaviside
>>
>>" It was known that different frequencies travel with different speeds on
>>a
>>long cable".
>>
>>Is the same in air and space?
>
> Yes in air , and no in space.

Yes close to the Earth. But what is close to the Sun?
S*

658. 4075 Solutions manual to Mechanics, Mechanical Engineering and Aerospace Engineering Books

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 22:10:05 UTC
From: BERGH <mattosbw1@gmail.com>
Message-ID: <918f806c-f4d9-40e4-83c3-090363a6f519@w7g2000pre.googlegroups.com>
Source record: 5309

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mattosbw1(at)gmail.com

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Solution manual Explorations : An Introduction to Astronomy (4th Ed. Updated, Thomas Arny)
Solution manual Explorations : An Introduction to Astronomy (5th Ed. Updated, Thomas Arny)
Solution manual Astronomy : Journey to the Cosmic Frontier (3rd Ed., John D. Fix)
Solution manual Astronomy : Journey to the Cosmic Frontier (4th Ed., John D. Fix)
Solution manual Astronomy : Journey to the Cosmic Frontier (5th Ed., John D. Fix)
Solution manual Pathways to Astronomy with Starry Night Pro (Steven Schneider & Thomas T Arny)
Solution manual From Molecules to Networks (2nd Ed., John Byrne & James Roberts)
Solution manual Biotechnology (David Clark & Nanette Pazdernik)
Solution manual Light and Video Microscopy (Randy Wayne)

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contact me to : mattosbw1@gmail.com mattosbw1(at)gmail.com

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663. Re: A3S/A743

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-26 23:06:13 UTC
From: nm5k@wt.net
Message-ID: <5d54de0f-3007-4efc-bd04-bf00f490ecc5@glegroupsg2000goo.googlegroups.com>
Source record: 5314

On Friday, March 25, 2011 7:49:02 PM UTC-6, D...@LS wrote:

> >
> >Are you looking for a comparison between the antennas?
>
> No, I already bought these antennas last year when I was very sick, so
> I didn't check everything as I should have. I just wanted a close
> number of degrees for the radiation angle. Cushcraft says they can't
> hazard a guess. That's really poor. Just something close was all I was
> after.

It would just be a guess on their part. Like one said, it
will depend mostly on the height in wavelength for the band
being used at the time.
The easiest way to get a good guess would be to
d/l one of the modeling programs and model a 3 el
yagi for each of the bands. That will get you close
enough for gov work. The type of yagi being modeled
doesn't really matter, so there is no real need to
exactly duplicate a A3S.. Just one of the regular
included yagi models will do..

664. 19+ HOT VIDEOS AND SEXY PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-27 11:00:24 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <efee8d90-db3f-459e-baae-55c9b4ed13f7@a11g2000pro.googlegroups.com>
Source record: 5315

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SeXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

665. MADONNA SEXY

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-27 17:07:22 UTC
From: anjana <anjanir999@gmail.com>
Message-ID: <2544dcc2-4ef4-43fc-bd57-d35ca8c4c95a@i39g2000prd.googlegroups.com>
Source record: 5316

http://www.catchmany.com/madonna

666. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-27 21:58:08 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ggo468-0os.ln1@mail.specsol.com>
Source record: 5317

```
Wimpie <wimabctel@tetech.nl> wrote:
> On 25 mar, 16:46, j...@specsol.spam.sux.com wrote:
>> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>> > I am simple asking if radio people have trouble with the fact that the speed
>> > of waves are frequeny dependent.
>>
>> No, they are not because the speed of electromagnetic waves is NOT frequeny
>> dependent, the speed is media dependent, you babbling, ignorant, trolling,
>> moron.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> Hello Jim,
>
> Given a certain medium, both phase and group velocity can be frequency
> dependent (example: ionosphere).

The speed of light is media dependent.

The media may or may not have characteristics that are frequency dependent.

Cart - Horse.

--
Jim Pennino

Remove .spam.sux to reply.
```

667. KARO JARA JALSA

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-28 15:17:31 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <f6e356f9-217b-4f9a-83ca-b187ffdbbb6c@z27g2000prz.googlegroups.com>
Source record: 5318

hot katrina kaif wallpapers
http://cinyworld96.blogspot.com/2011/03/katrina-kaif.html
deepika padukone new stills
http://cinyworld96.blogspot.com/2011/03/deepika-padukone.html
beautiful aishwariya rai
http://cinyworld96.blogspot.com/2011/03/aishwariya-rai.html
diya mirza sexy photos
http://cinyworld96.blogspot.com/2011/03/diya-mirza.html
stunning beauty sneha
http://cinyworld96.blogspot.com/2011/03/sneha.html
unbelivable iliyana photos
http://cinyworld96.blogspot.com/2011/03/iliyana.html
priyamani beautiful stills
http://cinyworld96.blogspot.com/2011/03/priyamani.html
pranitha in half saree
http://cinyworld96.blogspot.com/2011/03/pranitha.html
richa saree stills
http://cinyworld96.blogspot.com/2011/03/richa-gangopadyay.html

668. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-28 17:56:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <imqi45$kc0$1@news.jpl.nasa.gov>
Source record: 5319

Richard Fry wrote:
> A few years ago there was some discussion on r.r.a.a. about helically-
> wound, normal-mode monopoles, and the rather common expectation that
> they had higher gain than a linear monopole of the same physical
> height (and with other things equal).
>
> A recent NEC-2 analysis of this topic might be of interest:
> http://i62.photobucket.com/albums/h85/rfry-100/Helix_vs_Linear_Monopole.gif
> .

I think the difference might be in gain, not directivity...
The IR losses in the conductors (and components) would be different in a helically loaded monopole and a lumped network matching a short unloaded monopole. One could probably construct examples for cases where either one has lower loss.

There might also be a difference in the losses in the ground plane, although, intuitively, I suspect they would be small. The current distribution just isn't that different between the two cases

It would be interesting to run some cases where you use "wire" (1cm diameter conductors on your helix are pretty big... I'd try something like 1mm (18 AWG) or maybe 2mm (12 AWG)..

As I recall, NEC does figure out the losses accounting for skin effect, etc., although it might not deal with the "proximity effect" from adjacent turns.

669. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-28 18:05:02 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <imqika$kc0$2@news.jpl.nasa.gov>
Source record: 5321

Brian Howie wrote:

>> " It was known that different frequencies travel with different speeds
>> on a
>> long cable".
>>
>> Is the same in air and space?
>
> Yes in air , and no in space.
>
> B

Depends what you mean by "space".. perfect vacuum, sure..

But what's between the planets in the Solar System isn't a perfect vacuum, and so, it shows dispersion due to the presence of small amounts of ionization.

Granted, it's generally a better vacuum than you are likely to achieve on Earth by mechanical means.

670. Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-28 18:29:25 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <9da0aabd-c737-4fd8-91a0-26e70fc024f4@j9g2000prj.googlegroups.com>
Source record: 5320

I built a so called "Super J-pole" which is really two stacked
collinear half
wave antennas with a quarter wave phasing stub between them. The
design is by
N7QVC and it can be seen at <http://www.n7qvc.com/amateur_radio/
copper.html>. I
also placed a photograph of a representative build in the photo
section of this
reflector at
<http://groups.yahoo.com/group/amateur_radio/photos/album/1449680574/
pic/3362107\
0/view?picmode=&mode=tn&order=ordinal&start=1&count=20&dir=asc>.

I have had good results with this antenna but I wanted to make it into
a dual
band antenna that would work on seventy centimeters as well as on two
meters. I
was wondering if I could use a technique developed by Edison Fong,
WB6IQN on
this antenna in the same way he used it on an ordinary single half
wave J-pole.
What he did is to place an open quarter wave stub at the top of the
two half
wave lengths for seventy centimeters. That stub limits the UHF signal
to the
two half waves length at UHF of the antenna. It seems like it would
work from
having read his paper on the combination two meter and seventy
centimeter J-pole
antenna. That would give the antenna the same gain on seventy
centimeters as a
J-pole that is just for that band. For reference I have placed WB6IQNs
paper in
the files section of the newsgroup at
<http://f1.grp.yahoofs.com/v1/
kL6QTZLk1DQjM_Cn3vuvnsLUIuEsvRHSqUZyX2mw294a7mYKkc\
FBIXXlRY_6QxreqNWVpn0b7Dogiw9LafU63W429yoO/DBJ2_port_art.pdf>.

My first question is does anyone see any reason why this would not
work?

My second question is how would I construct the stub into a copper J-
pole.
Since WB6IQNs J-pole is a wire antenna, with or without a plastic
radome, he

used a piece of Coaxial cable as part of his two meter wire with the shield at
the end of the seventy centimeter portion of the antenna shorted to the two
meter radiator and the bottom of the shield, which is a quarter wave at UHF
below the top of the UHF segment, open relative to the two meter radiator.
Could I just use a full quarter wave stub made from a copper T, a street L, and
a short length of copper pipe turned back down along the two meter radiator? (A
street L is a ninety degree bend formed to allow it to be close coupled to an
adjacent fitting without a pipe nipple in between.)

My third question is if instead of shortening the lower VHF half wave
electrically to a UHF length I found a way to short out the quarter wave phasing
stub between the two VHF half wave radiators to UHF signals thus giving UHF
signals three full wave lengths of radiator to use would the gain be worth the
effort. To provide the shunting of the VHF quarter wave phasing stub I was
GUESSING that a half wave UHF coupling stub might work.

I freely admit to being out of my depth; or as a mariner might say off my
soundings; here. So I'm fully prepared to hear that the UHF half wave coupling
stub would not work as a shunt for the UHF signals to get past the VHF quarter
wave phasing stub. I have no pretense to any expertise. I'm trying to learn.
Laugh all you want but if it won't work please tell me in neophyte decipherable
language why not. If you have any guidance to offer it would be most welcome
but please keep the fog index down to the degree you are able. Thank you in
advance.

--
Tom Horne, W3TDH

671. sex medicine & hot videos

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 01:09:18 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <7ffc81ff-76b6-48fb-90ef-7121f3750c91@f15g2000pro.googlegroups.com>
Source record: 5322

how to encourage women hot sex
http://onlyforhealth-muni.blogspot.com/2011/03/medicine-for-women.html
food list for pregnant womens
http://onlyforhealth-muni.blogspot.com/2011/03/pregnants-food-list.html
hormone imbalance for men and women
http://onlyforhealth-muni.blogspot.com/2011/03/hormone-imbalance.html
sex medicine for men
http://onlyforhealth-muni.blogspot.com/2011/03/sildenafil-citrate.html
cure diseases only with water
http://onlyforhealth-muni.blogspot.com/2011/03/water-theraphy.html
antibiotics and there uses
http://onlyforhealth-muni.blogspot.com/2010/12/antibiotics-introduction.html

hot katrina kaif wallpapers
http://cinyworld96.blogspot.com/2011/03/katrina-kaif.html
deepika padukone new stills
http://cinyworld96.blogspot.com/2011/03/deepika-padukone.html
beautiful aishwariya rai
http://cinyworld96.blogspot.com/2011/03/aishwariya-rai.html
diya mirza sexy photos
http://cinyworld96.blogspot.com/2011/03/diya-mirza.html
stunning beauty sneha
http://cinyworld96.blogspot.com/2011/03/sneha.html
unbelivable iliyana photos
http://cinyworld96.blogspot.com/2011/03/iliyana.html
priyamani beautiful stills
http://cinyworld96.blogspot.com/2011/03/priyamani.html

672. Re: the hands of the sword could

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 02:56:47 UTC
From: KeithOP <KeithOP.7d71fd9@radiobanter.com>
Message-ID: <KeithOP.7d71fd9@radiobanter.com>
Source record: 5323

Hi. Most of my ' Office Professional 2010 Serial'
(http://www.office2010-key.eu/) have laptops with ' Office 2010
Professional X64' (http://www.office2010-key.eu/). They say its great
and that it is much ' Microsoft Office 2010 Pro'
(http://www.office2010-key.eu/) than Windows Vista and ' Office 2010 Pro
Product Key' (http://www.office2010-key.eu/). I would like to change
from Windows XP to Windows 7. Does the chang ' Office 2010 64bit'
(http://www.office2010-key.eu/) the information and the programs found
in the computer? I nee your help please!!

--
KeithOP

673. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 08:10:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d9193dc$0$2446$65785112@news.neostrada.pl>
Source record: 5324

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:imqika$kc0$2@news.jpl.nasa.gov...
> Brian Howie wrote:
>
>>> " It was known that different frequencies travel with different speeds
>>> on a
>>> long cable".
>>>
>>> Is the same in air and space?
>>
>> Yes in air , and no in space.
>>
>> B
>
> Depends what you mean by "space".. perfect vacuum, sure..
>
> But what's between the planets in the Solar System isn't a perfect vacuum,
> and so, it shows dispersion due to the presence of small amounts of
> ionization.
>
> Granted, it's generally a better vacuum than you are likely to achieve on
> Earth by mechanical means.

Speed of waves in a dispersive medium is temperature dependent.
In the Solar System the temperatures are decreasing with the distance from
the Sun.

You have send us: http://ipnpr.jpl.nasa.gov/progress_report/42-65/65I.PDF

It seems to me that the no answer for Maxwell's question:
"Incidentally, Maxwell once suggested that Roemer's method could be used to
test for the isotropy of light speed, i.e., to test whether the speed of
light is the same in all directions. Roemer's method can be regarded as a
means of measuring the speed of light in the direction from Jupiter to the
Earth. Jupiter has an orbital period of about 12 years, so if we use
Roemer's method to evaluate the speed of light several times over a 12 year
period, we will be evaluating the speed in all possible directions (in the
plane of the ecliptic). "

Do you know the answer?
S*

674. Re: Helically-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 10:31:56 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <imsceucuq1@dont-email.me>
Source record: 5325

"Jim Lux" wrote
> It would be interesting to run some cases where you use "wire"
> (1cm diameter conductors on your helix are pretty big... I'd try
> something like 1mm (18 AWG) or maybe 2mm (12 AWG)..

Here are the base feedpoint impedances for that NEC model
of a helix for the suggested conductor diameters...

1mm = 0.12 -j 2260 ohms
2mm = 0.12 -j 2170 ohms

675. Re: the hands of the sword could

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 13:41:56 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnip3od4.107b.knock_yourself_out@shell.config.com>
Source record: 5326

```
On Tue, 29 Mar 2011 02:56:47 +0000, KeithOP wrote:
>
> Hi. Most of my ' Office Professional 2010 Serial'
> (http://www.office2010-key.eu/) have laptops with ' Office 2010
> Professional X64' (http://www.office2010-key.eu/). They say its great
> and that it is much ' Microsoft Office 2010 Pro'
> (http://www.office2010-key.eu/) than Windows Vista and ' Office 2010 Pro
> Product Key' (http://www.office2010-key.eu/). I would like to change
> from Windows XP to Windows 7. Does the chang ' Office 2010 64bit'
> (http://www.office2010-key.eu/) the information and the programs found
> in the computer? I nee your help please!!

How is it connected to the _antenna_ -- open wire or coax?
```

676. Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 15:17:09 UTC
From: Dave <me@me.com>
Message-ID: <imst5hvit1@speranza.aioe.org>
Source record: 5327

Simple Question helix polarization - two stations, does one have to be LHCP and the other RHCP ? to keep the same 'thread' pattern if you see what I mean !

677. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 16:00:15 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <cbb52c97-7a91-41ad-b78b-f609ab4d7f04@glegroupsg2000goo.googlegroups.com>
Source record: 5328

Yes!

678. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 16:26:56 UTC
From: Dave <me@me.com>
Message-ID: <imt193aok1@speranza.aioe.org>
Source record: 5329

"KD7HB" <co_farmer@yahoo.com> wrote in message
news:cbb52c97-7a91-41ad-b78b-f609ab4d7f04@glegroupsg2000goo.googlegroups.com...
> Yes!

That's how I remembered it - a mirror image - I think I confused myself
(again) looking at AO-51's details.

Dave - G6ZKC

679. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 17:02:43 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <imt3bk$g6f$1@speranza.aioe.org>
Source record: 5331

On 29/03/2011 17:00, KD7HB wrote:
> Yes!

No!!! Put 2 screws end to end and prove it!!

Mind you even the professional got it wrong in the early days of satellites.

Jeff

680. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 17:30:30 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <imt4vkkap1@speranza.aioe.org>
Source record: 5332

On 3/23/2011 3:55 PM, Richard Fry wrote:
> A few years ago there was some discussion on r.r.a.a. about helically-
> wound, normal-mode monopoles, and the rather common expectation that
> they had higher gain than a linear monopole of the same physical
> height (and with other things equal).
>
> A recent NEC-2 analysis of this topic might be of interest:
> http://i62.photobucket.com/albums/h85/rfry-100/Helix_vs_Linear_Monopole.gif
> .
>
> Also this link to a page from John Kraus' ANTENNAS FOR ALL
> APPLICATIONS, 3rd Edition:
http://i62.photobucket.com/albums/h85/rfry-100/Helically-woundVertical.gif
> .
>
> //

Somehow, I think there is a difference. I think that they are being shown to be the same in the computer model is not valid in the real world. That said, in real world use, the differences do seem to be insignificant.

And, that said, I use a helical wound, half-wave electrical length - quarter-wave physical length, monopole in lieu of a 1/4 wave physical-length and physical length antenna. And, in personal experience, this DOES provide increased performance over the 1/4 wave.

In most real world restrictions, the helical wound versions always are an advantage in real world physical size ...

Regards,
JS

681. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 17:36:14 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <imt5abkap2@speranza.aioe.org>
Source record: 5333

On 3/23/2011 3:55 PM, Richard Fry wrote:
> A few years ago there was some discussion on r.r.a.a. about helically-
> wound, normal-mode monopoles, and the rather common expectation that
> they had higher gain than a linear monopole of the same physical
> height (and with other things equal).
>
> A recent NEC-2 analysis of this topic might be of interest:
> http://i62.photobucket.com/albums/h85/rfry-100/Helix_vs_Linear_Monopole.gif
> .
>
> Also this link to a page from John Kraus' ANTENNAS FOR ALL
> APPLICATIONS, 3rd Edition:
http://i62.photobucket.com/albums/h85/rfry-100/Helically-woundVertical.gif
> .
>
> //

Somehow, I think there is a difference. I think that they are being shown to be the same in the computer model is not valid in the real world. That said, in real world use, the differences do seem to be insignificant.

And, that said, I use a helical wound, half-wave electrical length - quarter-wave physical length, monopole in lieu of a 1/4 wave ELECTRICAL length and physical length antenna. And, in personal experience, this DOES provide increased performance over the 1/4 wave.

In most real world restrictions, the helical wound versions always are an advantage in real world physical size ...

Regards,
JS

682. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 17:53:34 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <6be37c17-af55-40f4-9748-29f7734875e7@x18g2000yqe.googlegroups.com>
Source record: 5334

On 29 mar, 17:17, "Dave" <m...@me.com> wrote:
> Simple Question helix polarization - two stations, does one have to be LHCP
> and the other RHCP ?   to keep the same 'thread' pattern if you see what I
> mean !

Hello Dave,

If you have a directional antenna (take a Yagi) and you look to the back of the antenna (so you look in the direction of wave propagation), the E-veld vector moves in the same plane as the plane of the antenna.

When you take two of this antenna's, one vertical and one horizontal and feed them 90 degr out of time phase (same power to each antenna), the E-field vector will rotate when it passes a fixed reference plane. Depending on + or − 90degr phase difference, the vector will rotate clockwise (RHC) or counter-clockwise (LHC).

Now take two of these circular antennas (for example both RHC). Now make one of the antennas the receive antenna. To do this, you have to rotate the antenna around its vertical axis over 180 degr. (so they look towards each other). This flips the horizontal yagi (causing 180 degrees phase shift in the horizontal path), but the vertical yagi does not flip.

This 180 degrees phase shift in the horizontal path is the reason that total phase shift for both vertical pol. as well as horizontal pol. paths are in phase.

So for line of sight, and you use circular polarized antennas, you need two antennas with same sense. In case of a single reflection on a perfect conductor, you need to change the sense of one of the antennas. The reason for that is that the horizontal part of the circular antenna isn't flipped and both hor. and vert. polarized reflections experience 180 degr. phase shift.

For non-perfect materials: when the angle of incidence is far below the (pseudo) Brewster angle, you need antennas with opposite sense. When far above the Brewster angle (so small grazing angle), the antennas should have same sense for best results (if you want to use the reflection path).

At the (pseudo) Brewster angle, you lose most of the vertical polarized component (parallel polarized component in physics) when the media interface is in the horizontal plane. So the receive antenna sees a mostly linear polarized (horizontal) component. In practice this component may interfere with the direct path.

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

683. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 18:00:34 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <D62dnZ4vaNCkjQ_QnZ2dnUVZ_o2dnZ2d@earthlink.com>
Source record: 5330

"Dave" <me@me.com> wrote in message news:imt193aok1@speranza.aioe.org...
>
>
> "KD7HB" <co_farmer@yahoo.com> wrote in message
> news:cbb52c97-7a91-41ad-b78b-f609ab4d7f04@glegroupsg2000goo.googlegroups.com...
>> Yes!
>
> That's how I remembered it - a mirror image - I think I confused myself
> (again) looking at AO-51's details.
>
> Dave - G6ZKC

Only for moon bounce.

For one antenna direct to another, they must both be the same. That would be RHC for both antennas or LHC for both antennas. If one is LHC and the other is RHC, there is about a 20 or so db difference, just as it would be going horizontal to vertical. If the signal bounces off something ONE time, then it is reversed.

There are other things that may cause the signal to be reversed or atleast be stronger if reversed. There are cases where the OSCAR signal will be stronger if the opposite sense is used. Sometimes while using a circular antenna (KLM22C) I have found earth station that use horizontal or vertical antennas stronger one way than the other.

684. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 18:38:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <29340083-b845-4782-b257-95deae677bea@m13g2000yqb.googlegroups.com>
Source record: 5335

On Mar 29, 10:17 am, "Dave" <m...@me.com> wrote:
> Simple Question helix polarization - two stations, does one have to be LHCP
> and the other RHCP ?   to keep the same 'thread' pattern if you see what I
> mean !

Only for axial mode, not for normal mode.
--
73, Cecil, w5dxp.com

685. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 18:49:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fda76843-2a96-4108-ba64-4cc966ce2100@u8g2000yqh.googlegroups.com>
Source record: 5336

On Mar 29, 12:30 pm, John Smith <assemblywiz...@gmail.com> wrote:
> And, that said, I use a helical wound, half-wave electrical length -
> quarter-wave physical length, monopole in lieu of a 1/4 wave
> physical-length and physical length antenna. And, in personal
> experience, this DOES provide increased performance over the 1/4 wave.

Unlike the original example, that would produce a quite different
current distribution on the antenna. I suspect the half-wave helical
wouldn't require as good a radial system as the standard 1/4WL
monopole since the current maximum point is halfway up the helical.
Did you end-feed the beast or center-feed it? Did you have a good
radial system?
--
73, Cecil, w5dxp.com

686. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 19:22:39 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <imtbhqhej1@news.jpl.nasa.gov>
Source record: 5338

Szczepan Bialek wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:imqika$kc0$2@news.jpl.nasa.gov...
>> Brian Howie wrote:
>>
>>>> " It was known that different frequencies travel with different speeds
>>>> on a
>>>> long cable".
>>>>
>>>> Is the same in air and space?
>>> Yes in air , and no in space.
>>>
>>> B
>> Depends what you mean by "space".. perfect vacuum, sure..
>>
>> But what's between the planets in the Solar System isn't a perfect vacuum,
>> and so, it shows dispersion due to the presence of small amounts of
>> ionization.
>>
>> Granted, it's generally a better vacuum than you are likely to achieve on
>> Earth by mechanical means.
>
> Speed of waves in a dispersive medium is temperature dependent.

Maybe.. depends on the medium, I should think, and the mechanism of the
dispersion. Some dispersion might be due to ionization (which may or
may not be temperature dependent).

> In the Solar System the temperatures are decreasing with the distance from
> the Sun.
>

Temperature in a vacuum and with ionized particles is tricky to define.
It has to do with mean free path and the velocity of the particles.
When the number density gets down in the "few atoms per cubic meter" and
the mean free path gets to be meters or km, I think you need to start
thinking in different ways.

One common confusion is an assumption of a particular velocity
distribution in charged particles and then using the 11000K = 1 eV relation.

687. Re: the hands of the sword could

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 19:28:58 UTC
From: Nomen Nescio <nobody@dizum.com>
Message-ID: <c41c322134cea94aa5f29697ce4e1cb8@dizum.com>
Source record: 5337

> How is it connected to the _antenna_ -- open wire or coax?

How is your quoting his spam helping?

688. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 22:35:29 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <imtmridhn1@dont-email.me>
Source record: 5339

"Cecil Moore" wrote
>I suspect the half-wave helical wouldn't require as good a
>radial system as the standard 1/4WL monopole since the
>current maximum point is halfway up the helical.

Quoting from Antenna Engineering Handbook, 2nd Edition by Johnson and Jasik, page 13-18: "For a normal-mode helix whose dimensions are small compared to a wavelength, the current distribution along the helix is approximately sinusoidal."

John Kraus also assumed sinusoidal current distribution along the helix in his Fig 8-72 (see clip).

This current sinusoid exists along the aperture of the helix, and not along the spiral conductor itself. Therefore it is unclear as to the source of this belief that current would be maximum at the center of "1/2-WL" helix whose end-end length is 1/4-WL. In reality the current maximum would be at the base of the radiator, just as it is for a 1/4-wave linear monopole.

The current distribution along the aperture of both of these forms of radiators has a sinusoidal shape. The current at the top of both of these radiators must be zero. The portion of a sinusoidal waveform at the operating frequency, beginning with zero current at the top, that can exist along the aperture of radiators that are physically short in terms of wavelength, as in my NEC comparison, appears to be a straight line with zero current at the top and maximum current at the base of the radiator.

With essentially identical current distribution along the aperture of both radiator forms, it should be expected that the helix and linear monopoles in this discussion should have essentially identical radiation resistances and patterns.

This has been shown to be true in the NEC comparison in the OP, and is supported by the quoted statements from well-respected authors of antenna engineering textbooks.

689. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 23:38:47 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <imtqi9jjl1@dont-email.me>
Source record: 5340

On 3/29/2011 5:35 PM, Richard Fry wrote:

> The current distribution along the aperture of both of these forms of
> radiators has a sinusoidal shape. The current at the top of both of
> these radiators must be zero. The portion of a sinusoidal waveform at
> the operating frequency, beginning with zero current at the top, that
> can exist along the aperture of radiators that are physically short in
> terms of wavelength, as in my NEC comparison, appears to be a straight
> line with zero current at the top and maximum current at the base of the
> radiator.

Yes. This is shown in various editions of the ARRL Antenna Handbook and
the ARRL Handbook itself.

> With essentially identical current distribution along the aperture of
> both radiator forms, it should be expected that the helix and linear
> monopoles in this discussion should have essentially identical radiation
> resistances and patterns.
>
> This has been shown to be true in the NEC comparison in the OP, and is
> supported by the quoted statements from well-respected authors of
> antenna engineering textbooks.

Thanks, Richard.

73,
John

690. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-29 23:47:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <imtr1u$m5v$1@news.jpl.nasa.gov>
Source record: 5341

John - KD5YI wrote:
> On 3/29/2011 5:35 PM, Richard Fry wrote:
>
>> The current distribution along the aperture of both of these forms of
>> radiators has a sinusoidal shape. The current at the top of both of
>> these radiators must be zero. The portion of a sinusoidal waveform at
>> the operating frequency, beginning with zero current at the top, that
>> can exist along the aperture of radiators that are physically short in
>> terms of wavelength, as in my NEC comparison, appears to be a straight
>> line with zero current at the top and maximum current at the base of the
>> radiator.
>
> Yes. This is shown in various editions of the ARRL Antenna Handbook and
> the ARRL Handbook itself.
>
>> With essentially identical current distribution along the aperture of
>> both radiator forms, it should be expected that the helix and linear
>> monopoles in this discussion should have essentially identical radiation
>> resistances and patterns.
>>
>> This has been shown to be true in the NEC comparison in the OP, and is
>> supported by the quoted statements from well-respected authors of
>> antenna engineering textbooks.
>
> Thanks, Richard.
>
> 73,
> John

The next step would be to run it plugging in some reasonable number for the wire resistivity. The patterns should be quite similar. I theorize that it will show that for same power in at the feedpoint, the "gain" will be slightly less for the helically loaded one (because there's a longer wire, so more resistance, for essentially the same current distribution in the wire).

Then, the question would be whether the helically loaded unit has a lower loss in a matching network at the base.

691. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 03:14:04 UTC
From: tom <news4792@taring.org>
Message-ID: <4d929ffa$0$6700$8046368a@newsreader.iphouse.net>
Source record: 5342

On 3/29/2011 12:02 PM, Jeff wrote:
> On 29/03/2011 17:00, KD7HB wrote:
>> Yes!
>
> No!!! Put 2 screws end to end and prove it!!
>
> Mind you even the professional got it wrong in the early days of
> satellites.
>
> Jeff

Correct.

Amazing how many smart people don't get it. Often the "dumb" people are
much smarter.

tom
K0TAR

692. adult hot photos&videos

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 04:59:52 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <4bf93f9f-3b5f-495e-9ec9-f4a459273bd5@q12g2000prb.googlegroups.com>
Source record: 5343

hot katrina kaif wallpapers
http://cinyworld96.blogspot.com/2011/03/katrina-kaif.html
deepika padukone new stills
http://cinyworld96.blogspot.com/2011/03/deepika-padukone.html
beautiful aishwariya rai
http://cinyworld96.blogspot.com/2011/03/aishwariya-rai.html
diya mirza sexy photos
http://cinyworld96.blogspot.com/2011/03/diya-mirza.html
stunning beauty sneha
http://cinyworld96.blogspot.com/2011/03/sneha.html
unbelivable iliyana photos
http://cinyworld96.blogspot.com/2011/03/iliyana.html
priyamani beautiful stills
http://cinyworld96.blogspot.com/2011/03/priyamani.html
pranitha in half saree
http://cinyworld96.blogspot.com/2011/03/pranitha.html
richa saree stills
http://cinyworld96.blogspot.com/2011/03/richa-gangopadyay.html

693. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 06:09:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d5h5p6t3g87a2658jk1bi74h4b4tfp17fn@4ax.com>
Source record: 5344

On Mon, 28 Mar 2011 11:29:25 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>please keep the fog index down to the degree you are able

Hi Tom,

After looking at the mile long URL to one of your offerings - I would like to see the fog lift too.

Why don't you simply tell us what performance you want to achieve from an antenna?

A simple quarterwave antenna built on a SO-239 connector with four drooping radials is squat simple, cheap, and can be built and trimmed to near perfect match in half an hour or less. You want multiband? Make two vertical, slightly skewed elements (each cut for the suited band) joined at the feedpoint. You want more gain? How much more? Build two or (n-times) more and spend your effort in learning to construct feedline systems to additively join them.

73's
Richard Clark, KB7QHC

694. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 06:25:01 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <imuic0kpp1@speranza.aioe.org>
Source record: 5345

On 29/03/2011 19:38, Cecil Moore wrote:
> On Mar 29, 10:17 am, "Dave"<m...@me.com> wrote:
>> Simple Question helix polarization - two stations, does one have to be LHCP
>> and the other RHCP ? to keep the same 'thread' pattern if you see what I
>> mean !
>
> Only for axial mode, not for normal mode.
> --
> 73, Cecil, w5dxp.com

Yes, but axial mode produces linear polarization, and that is not what
the question is about

jeff

695. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 06:26:24 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <imuiejkpp2@speranza.aioe.org>
Source record: 5346

```
On 30/03/2011 07:25, Jeff wrote:
> On 29/03/2011 19:38, Cecil Moore wrote:
>> On Mar 29, 10:17 am, "Dave"<m...@me.com> wrote:
>>> Simple Question helix polarization - two stations, does one have to
>>> be LHCP
>>> and the other RHCP ? to keep the same 'thread' pattern if you see what I
>>> mean !
>>
>> Only for axial mode, not for normal mode.
>> --
>> 73, Cecil, w5dxp.com
>
> Yes, but axial mode produces linear polarization, and that is not what
> the question is about
>
> jeff

OOpps! that should read 'normal mode' not 'axial mode'

Jeff
```

696. ADULT HOT VIDEOS NEW SEXY PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 07:10:08 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <0d24367a-2887-457b-aa2f-60724eae4a2b@l14g2000pre.googlegroups.com>
Source record: 5347

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SeXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

697. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 07:36:03 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d92dd66$0$2456$65785112@news.neostrada.pl>
Source record: 5348

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:imtbhqhej1@news.jpl.nasa.gov...
> Szczepan Bialek wrote:
>>
>> Speed of waves in a dispersive medium is temperature dependent.
>
> Maybe.. depends on the medium, I should think, and the mechanism of the
> dispersion. Some dispersion might be due to ionization (which may or may
> not be temperature dependent).

It is known that the speed of light in air is temperature dependent (mirage
and E. Schmidt's method in Fluid dynamics).
in vacuum also. But I culd find the results.
>
>> In the Solar System the temperatures are decreasing with the distance
>> from the Sun.
>>
>
> Temperature in a vacuum and with ionized particles is tricky to define.
> It has to do with mean free path and the velocity of the particles. When
> the number density gets down in the "few atoms per cubic meter" and the
> mean free path gets to be meters or km, I think you need to start thinking
> in different ways.

May be, but at first I must know if the mirage works in vacuum.
>
> One common confusion is an assumption of a particular velocity
> distribution in charged particles and then using the 11000K = 1 eV
> relation.

Yes. But the simple measurement of the mirage or E. Schmidt's effect in
vacuum will clarify everything.
"I am sure that such experiments were done". Could you help?
S*

698. Re: Ping amdx

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 10:00:35 UTC
From: KeithOP <KeithOP.7d8c5b8@radiobanter.com>
Message-ID: <KeithOP.7d8c5b8@radiobanter.com>
Source record: 5349

There is one product called "' Office Professional Plus 2010 32 Bit' (http://www.office2010-key.eu/)," and another one called "' Office Home And Student 2010 Serial' (http://www.office2010-key.eu/)" the price difference is ' Office 2010 Professional 32 Bit' (http://www.office2010-key.eu/) dollars the home ' Office Home And Student 2010 Activation' (http://www.office2010-key.eu/) one being cheaper. I just want to buy ' Microsoft Office 2010 X86 Key' (http://www.office2010-key.eu/) for a new hard drive which one do i have to buy?

--
KeithOP

699. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 11:43:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <14f931aa-b3eb-4ade-95a7-323330370cba@x3g2000yqj.googlegroups.com>
Source record: 5350

On Mar 30, 1:25 am, Jeff <j...@jsystems.com> wrote:
> Yes, but axial mode produces linear polarization, and that is not what
> the question is about

How do you know that since the mode was not specified? On other
newsgroups, I have read about people worrying about RH or LH for
normal mode helical configurations.
--
73, Cecil, w5dxp.com

700. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 12:01:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e1bd4e68-6912-4707-80c0-4bc583df1721@r13g2000yqk.googlegroups.com>
Source record: 5351

On Mar 29, 5:35 pm, "Richard Fry" <Inva...@Invalid.com> wrote:
> Quoting from Antenna Engineering Handbook, 2nd Edition by Johnson and Jasik,
> page 13-18: "For a normal-mode helix whose dimensions are small compared to
> a wavelength, the current distribution along the helix is approximately
> sinusoidal."

But John, a helix that is 180 degrees long electrically is not small.
It is electrically double the size of a 1/4WL monopole.

> Therefore it is unclear as to the source of
> this belief that current would be maximum at the center of "1/2-WL" helix
> whose end-end length is 1/4-WL. In reality the current maximum would be at
> the base of the radiator, just as it is for a 1/4-wave linear monopole.

Not true. Any monopole that is electrically 180 degrees long will have
the current maximum point in the middle and a normal mode helix is no
exception. You can easily model such with EZNEC. For any 180 degree
antenna, at the feedpoint, the reflected voltage will arrive in phase
with the forward voltage. The reflected current will arrive 180
degrees out of phase with the forward current.

Zfp = (Vfor+Vref)/(Ifor-Iref) is a current minimum

Take your NEC helical model and adjust the frequency to approximately
double the resonant frequency and take a look at the current
distribution.
--
73, Cecil, w5dxp.com

701. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 15:17:32 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4fc5240b-ce1a-4e98-8f2c-0fefad0ee5bb@r3g2000yqh.googlegroups.com>
Source record: 5352

On Mar 30, 7:01 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Mar 29, 5:35 pm, "Richard Fry" <Inva...@Invalid.com> wrote:
> But John,

Richard, I'm sorry. I have no idea why I typed "John" there. Maybe a
senior moment?
--
73, Cecil, w5dxp.com

702. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 15:28:23 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <imvi6p$f84$1@dont-email.me>
Source record: 5353

"Cecil Moore" wrote

> Take your NEC helical model and adjust the frequency to
> approximately double the resonant frequency and take a
> look at the current distribution.

I have already done an illustration based on the currents in the NEC comparison posted earlier, showing a helix and a linear monopole each about 6 degrees in aperture (link below).

This link shows that even though the length of wire used in the helix is 3.14 X the length used in the linear monopole, the current distribution along their apertures essentially is the same, as will be the directivity and radiation pattern of both versions.

This same equivalence would apply to the current distribution, directivity and pattern of a linear, 1/4-WL monopole and a helically-wound monopole that was 1/4-WL in aperture, but contained 1/2-WL of coiled wire.

http://i62.photobucket.com/albums/h85/rfry-100/Monopole_Current.gif

703. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 16:31:33 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <imvlsu$9qp$1@news.jpl.nasa.gov>
Source record: 5354

Cecil Moore wrote:
> On Mar 29, 5:35 pm, "Richard Fry" <Inva...@Invalid.com> wrote:
>> Quoting from Antenna Engineering Handbook, 2nd Edition by Johnson and Jasik,
>> page 13-18: "For a normal-mode helix whose dimensions are small compared to
>> a wavelength, the current distribution along the helix is approximately
>> sinusoidal."
>
> But John, a helix that is 180 degrees long electrically is not small.
> It is electrically double the size of a 1/4WL monopole.

"small" in Kraus's book means "physically" small, not electrically small.

>
>> Therefore it is unclear as to the source of
>> this belief that current would be maximum at the center of "1/2-WL" helix
>> whose end-end length is 1/4-WL. In reality the current maximum would be at
>> the base of the radiator, just as it is for a 1/4-wave linear monopole.
>
>
> Take your NEC helical model and adjust the frequency to approximately
> double the resonant frequency and take a look at the current
> distribution.

This is no different than taking the "non-helical" antenna and feeding
it at twice the frequency.

I would imagine that the pattern of the helically loaded and the
unloaded will be quite similar at ANY frequency, until you get to where
the *diameter* of the assembly starts to be a significant fraction of a
wavelength.

What might change more is the resistive losses, although I suspect
they'll scale in proportion too. Whether you've strung 10 meters, 20
meters or 30 meters of wire in a physical 10 meter length doesn't change
the *radiation* properties a huge amount.

704. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 16:50:44 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <imvn0t$a5f$1@news.jpl.nasa.gov>
Source record: 5355

Szczepan Bialek wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:imtbhqhej1@news.jpl.nasa.gov...
>> Szczepan Bialek wrote:
>>> Speed of waves in a dispersive medium is temperature dependent.
>> Maybe.. depends on the medium, I should think, and the mechanism of the
>> dispersion. Some dispersion might be due to ionization (which may or may
>> not be temperature dependent).
>
> It is known that the speed of light in air is temperature dependent (mirage
> and E. Schmidt's method in Fluid dynamics).
> in vacuum also. But I culd find the results.
>>> In the Solar System the temperatures are decreasing with the distance
>>> from the Sun.
>>>
>> Temperature in a vacuum and with ionized particles is tricky to define.
>> It has to do with mean free path and the velocity of the particles. When
>> the number density gets down in the "few atoms per cubic meter" and the
>> mean free path gets to be meters or km, I think you need to start thinking
>> in different ways.
>
> May be, but at first I must know if the mirage works in vacuum.
>> One common confusion is an assumption of a particular velocity
>> distribution in charged particles and then using the 11000K = 1 eV
>> relation.
>
> Yes. But the simple measurement of the mirage or E. Schmidt's effect in
> vacuum will clarify everything.
> "I am sure that such experiments were done". Could you help?
> S*
>
>

How about Ordinary and Extraordinary rays in the dispersive medium of
the ionosphere. Is the ionosphere "vacuum" enough for you? The space
station orbits in the middle of it, and most folks think that qualifies
as vacuum (1e-6 Torr, or so). Electron density runs pretty high: about
1E10-1E12/m3

At the top, the pressure runs about 1E-5 Pascal (7.5E-8 torr) & mean
free path is on the order of tens of km.

There's lots and lots and lots of data about dispersion of EM
propagation in the ionosphere.

Again, I'm not sure "temperature" is the relevant measure for something like that. You can define temperature for a very low pressure gas like this, but it's not in the same sort of sense as one would apply to a bulk tangible medium (like air at the Earth's surface or water)

705. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 17:23:51 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <635aa11c-e81c-4d75-aac4-54bfa02b1787@x8g2000prh.googlegroups.com>
Source record: 5356

On Mar 30, 2:09 am, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 28 Mar 2011 11:29:25 -0700 (PDT), Tom Horne
>
> <horn...@gmail.com> wrote:
> >please keep the fog index down to the degree you are able
>
> Hi Tom,
>
> After looking at the mile long URL to one of your offerings - I would
> like to see the fog lift too.
>
> Why don't you simply tell us what performance you want to achieve from
> an antenna?
>
> A simple quarterwave antenna built on a SO-239 connector with four
> drooping radials is squat simple, cheap, and can be built and trimmed
> to near perfect match in half an hour or less. You want multiband?
> Make two vertical, slightly skewed elements (each cut for the suited
> band) joined at the feedpoint. You want more gain? How much more?
> Build two or (n-times) more and spend your effort in learning to
> construct feedline systems to additively join them.
>
> 73's
> Richard Clark, KB7QHC

Richard
I wanted to explore whether it is practical to have my collinear dual half wave J-pole serve as a dual band antenna. If it were practical I would want the same gain on seventy centimeters that I have been getting out of the dual stacked half wave on two meters. The available testing that I was able to find says that it is 6 DB over a quarter wave vertical. What I would happily settle for would be for it to have the same gain on seventy centimeters as the dual band simple J-pole I am using now. After talking to Rol Anders, K3RA; who was the instructor for my Extra theory class and is the present chairman of the Question Pool Committee of the National Council of Volunteer Examiner Coordinators (NCVEC); last night I am taking that later approach. That is the approach that I outlined in the first paragraph of just putting an open blocking stub for UHF at thirty five centimeters ~ up the lower two meter half wave and therefore below the two meter phasing stub between the two meter half wave segments. That has the virtue of being simple and still giving me a dual band antenna that has better gain on UHF then the unmodified two meter antenna would.

I wanted a dual band antenna because I only have three suitable mounting points on my home and I already have plans for a six meter J-pole and an anemometer / sensor array assembly on the other two. I have an Arrow dual band J-pole up on that mounting point right now but I wanted to return to the higher gain of the collinear dual half wave J-pole that gave me so much better real world performance on two meters. It is my hope that just adding the seventy centimeter band blocking stub to the collinear antenna's lower two meter half wave segment will do the trick.

--
Tom Horne, W3TDH

706. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 18:04:28 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <imvrbhvjn1@dont-email.me>
Source record: 5357

On 3/30/2011 11:50 AM, Jim Lux wrote:
> Szczepan Bialek wrote:
>> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>> news:imtbhqhej1@news.jpl.nasa.gov...
>>> Szczepan Bialek wrote:
>>>> Speed of waves in a dispersive medium is temperature dependent.
>>> Maybe.. depends on the medium, I should think, and the mechanism of
>>> the dispersion. Some dispersion might be due to ionization (which may
>>> or may not be temperature dependent).
>>
>> It is known that the speed of light in air is temperature dependent (
>> mirage and E. Schmidt's method in Fluid dynamics).
>> in vacuum also. But I culd find the results.
>>>> In the Solar System the temperatures are decreasing with the
>>>> distance from the Sun.
>>>>
>>> Temperature in a vacuum and with ionized particles is tricky to define.
>>> It has to do with mean free path and the velocity of the particles.
>>> When the number density gets down in the "few atoms per cubic meter"
>>> and the mean free path gets to be meters or km, I think you need to
>>> start thinking in different ways.

(snip)

>
> Again, I'm not sure "temperature" is the relevant measure for something
> like that. You can define temperature for a very low pressure gas like
> this, but it's not in the same sort of sense as one would apply to a
> bulk tangible medium (like air at the Earth's surface or water)

Isaac Asimov touched on this in his book on physics. He said the
temperature up there is high because of the high molecule velocity, but
that *heat* is another matter. So, you can have a high "temperature"
even if the "heat" is practically nil.

That makes you correct. One must carefully state what is meant by
temperature and what is meant by heat.

707. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 18:07:31 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <imvrh6vjn2@dont-email.me>
Source record: 5358

```
On 3/30/2011 1:04 PM, John - KD5YI wrote:
> On 3/30/2011 11:50 AM, Jim Lux wrote:
>> Szczepan Bialek wrote:
>>> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>>> news:imtbhq$hej$1@news.jpl.nasa.gov...
>>>> Szczepan Bialek wrote:
>>>>> Speed of waves in a dispersive medium is temperature dependent.
>>>> Maybe.. depends on the medium, I should think, and the mechanism of
>>>> the dispersion. Some dispersion might be due to ionization (which may
>>>> or may not be temperature dependent).
>>>
>>> It is known that the speed of light in air is temperature dependent (
>>> mirage and E. Schmidt's method in Fluid dynamics).
>>> in vacuum also. But I culd find the results.
>>>>> In the Solar System the temperatures are decreasing with the
>>>>> distance from the Sun.
>>>>>
>>>> Temperature in a vacuum and with ionized particles is tricky to define.
>>>> It has to do with mean free path and the velocity of the particles.
>>>> When the number density gets down in the "few atoms per cubic meter"
>>>> and the mean free path gets to be meters or km, I think you need to
>>>> start thinking in different ways.
>
>
> (snip)
>
>>
>> Again, I'm not sure "temperature" is the relevant measure for something
>> like that. You can define temperature for a very low pressure gas like
>> this, but it's not in the same sort of sense as one would apply to a
>> bulk tangible medium (like air at the Earth's surface or water)
>
> Isaac Asimov touched on this in his book on physics. He said the
> temperature up there is high because of the high molecule velocity, but
> that *heat* is another matter.

because of extremely low molecular density at that altitude.

So, you can have a high "temperature"
> even if the "heat" is practically nil.

> That makes you correct. One must carefully state what is meant by
> temperature and what is meant by heat.
>
>
```

>

708. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 19:28:06 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8587a5e5-7e85-4ecc-ba10-419daf3b17da@z27g2000prz.googlegroups.com>
Source record: 5359

On Mar 30, 10:28 am, "Richard Fry" <Inva...@Invalid.com> wrote:
> I have already done an illustration based on the currents in the NEC
> comparison posted earlier, showing a helix and a linear monopole each about
> 6 degrees in aperture (link below).

What we have here is a failure to communicate. Please forget about
your previous posting. We are not talking about 6 deg. electrically
short helicals. We are talking about comparing an 180 degree
electrically long monopole to a 90 degree long RESONANT monopole.
Here's how to accomplish what we are talking about:

1. Wind a helical that is 90 degrees long, i.e. the feedpoint
impedance is R1+j0. That helical is 1/4WL long electrically and
resonant. It may be ~1/8WL (45 deg) long physically.
2. Now increase the frequency until the helical is 180 degrees long
electrically. At something like double the frequency, it will be 1/2WL
long electrically and the feedpoint impedance will be R2+j0 where
R2>>R1. It may be ~1/4WL long physically.

John said his 180 degree helical outperformed his resonant 90 degree
helical. His statement has nothing to do with electrically short
helical monopoles because they are resonant.

The current maximum for a 90 degree resonant helical will be at the
base feedpoint just as it is for a 90 degree stub. The current maximum
for a 180 degree helical will be halfway up the antenna just as it is
halfway up a 180 degree stub.
--
73, Cecil, w5dxp.com

709. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 19:41:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ffb0f4af-268e-4312-a895-ef8119558c9a@v11g2000prb.googlegroups.com>
Source record: 5360

On Mar 30, 11:31 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> I would imagine that the pattern of the helically loaded and the
> unloaded will be quite similar at ANY frequency, until you get to where
> the *diameter* of the assembly starts to be a significant fraction of a
> wavelength.

A helical longer than a few degrees will exhibit transmission line
effects. A helical that is electrically 180 degrees long will have
essentially the same standing wave current envelope as a 180 degree
long open-circuit transmission line stub. EZNEC agrees.

John said his 180 degree electrically long helical outperformed his
electrically long 90 degree helical. The standing-wave current
envelope for the 90 degree helical is a cosine with the current
maximum at the feedpoint. The standing-wave current envelope for the
180 degree long helical is a sine wave with the current maximum point
in the middle of the helical. They would not have the same radiation
patterns. EZNEC agrees.

Again, I have modeled these conditions using EZNEC and I am reporting
the results. The "Currents" button will give the current magnitude/
phase for each segment in the helical.
--
73, Cecil, w5dxp.com

710. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 22:58:53 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <in0cjf$br4$1@dont-email.me>
Source record: 5361

"Cecil Moore" wrote
> The standing-wave current envelope for the 180 degree long helical
> is a sine wave with the current maximum point in the middle
> of the helical.

That is true ONLY if the end-to-end length (height) of a normal-mode helical monopole occupies about 180 degrees of a free-space wavelength.

If that helix occupies only about 90 degrees of a free-space wavelength, then no matter how much linear wire length is contained in the coils of the helix, that helical radiator will have the radiation resistance, pattern and directivity characteristics of a 90-degree linear monopole of the same end-to-end height.

The length of coiled wire in a helix of any physical length makes very little difference in the current distribution along its aperture, its directivity, or its radiation patterns.

>Please forget about your previous posting. We are not talking about 6 deg.
>electrically short helicals.

Rather than suggesting that my previous posting(s) on this subject should be forgotten, perhaps they should be re-read -- especially the link to http://i62.photobucket.com/albums/h85/rfry-100/Monopole_Current.gif .

711. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 23:15:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <84c7p6tlj3o9ehiarna3gqptrnhkh8t6j8@4ax.com>
Source record: 5362

On Wed, 30 Mar 2011 10:23:51 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>Richard
>I wanted to explore whether it is practical to have my collinear dual
>half wave J-pole serve as a dual band antenna. If it were practical I
>would want the same gain on seventy centimeters that I have been
>getting out of the dual stacked half wave on two meters.

Which would be quite horrible.

>The
>available testing that I was able to find says that it is 6 DB over a
>quarter wave vertical. What I would happily settle for would be for
>it to have the same gain on seventy centimeters as the dual band
>simple J-pole I am using now.

Hi Tom,

It is extremely hard to accept claims for J-Poles when nothing is said
about the care in choking the feed point, and further choking the
section of line a quarter wave away from the feed point.

Typically this discussion is arrived at with some surprise on the part
of the J-Pole user who posts here (I know you have participated here
before, and are thus not a newbie). Some (which means too many)
respond that choking is unnecessary. They are satisfied with its
performance (never daring to examine that it could be vastly
improved).

We also have writers here who condemn the J-Pole vehemently in equal
measure. They, too, have not examined the necessity of choking and
they suffer from the knowledge that things could be vastly improved.

This is the pitiable lament of feeding halfwave elements in any form.

Let's examine what you call "available testing." I presume this means
in software, and not in the lab (never mind alternatives such as out
in a field). I could be wrong and you may correct this on your
response.

However, moving on with whatever presumption, the reason why choking
is important is that with High Z antennas, they tend to drive the
transmission line into radiation. This extends the length of the
radiator, and too often this raises the lobe of maximum radiation up
into the sky (you are very near that with the half wave where 5/8ths
is considered the limit of physical height before this trips over).

These are all issues related to a vertical, and its elevation goes into the mix too to further confuse comparisons.

Now, basically you are asking the same antenna to operate at roughly triple the frequency. This also means either element of the native radiator will stand like something under 3/2 wavelengths tall - truly a cloud burner (not good).

You speak of stubs to fix this. You would have to start with two 3/2 halfwave radiators, one over the other. Fixing the phase for both 2M and 440 would be a miracle in achievement. I presume you would also trap the individual 3/2 wave length sections into two 5/8ths (but the ratios don't quite work out that way); or three half waves; or six quarter waves - and then do it again for the section above. Whew!

This is a monumental task - but you have simpler goals as the following would suggest:

>just putting an open blocking stub for UHF at thirty five
>centimeters ~ up the lower two meter half wave and therefore below the
>two meter phasing stub between the two meter half wave segments. That
>has the virtue of being simple and still giving me a dual band antenna
>that has better gain on UHF then the unmodified two meter antenna
>would.

The blocking stub I presume you to mean a trap for 440. It is going to upset the matching stub between the two halfwave 2M elements. Here you will have to juggle between tuning them both on each band.

It is less than monumental, but still quite a job, and one that demands that you cut and try and fully erecting your last attempt to see how it works (doing this on the ground is going to lead to grief - especially if you ignore proper choking).

73's
Richard Clark, KB7QHC

712. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-30 23:57:18 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <in0g10$n28$1@dont-email.me>
Source record: 5363

P.S.

Both linear, and helical normal-mode monopoles of ~6 degrees physical aperture (and less) can be made resonant at the operating frequency via a suitable inductance placed either in the monopole itself, or at its feedpoint.

But resonance so achieved does NOT mean that such monopole radiators will have a very useful amount of radiation resistance, or that such a resonant condition equates to the performance of a radiator that is resonant without the need for such an additional inductance.

This reality appears to have been overlooked in some of the earlier posts in this thread.

713. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 00:38:12 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <in0idd$ik6$1@news.jpl.nasa.gov>
Source record: 5364

John - KD5YI wrote:

>>
>> Again, I'm not sure "temperature" is the relevant measure for something
>> like that. You can define temperature for a very low pressure gas like
>> this, but it's not in the same sort of sense as one would apply to a
>> bulk tangible medium (like air at the Earth's surface or water)
>
> Isaac Asimov touched on this in his book on physics. He said the
> temperature up there is high because of the high molecule velocity, but
> that *heat* is another matter. So, you can have a high "temperature"
> even if the "heat" is practically nil.

I suppose, too, that the whole things still works in terms of, say, propagation velocity of sound, because that is driven by velocity of molecules/atoms (and is related to square root of Temperature).

So, sound propagates very quickly in the ionosphere (it's got a fairly high temperature), but because there's not a whole lot of atoms around, the attenuation will be quite high (essentially infinite, I suspect)

And that's totally different than propagating something by EM waves.

>
> That makes you correct. One must carefully state what is meant by
> temperature and what is meant by heat.
>
>
>

714. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 02:39:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <94340bc1-4e3b-4aee-b245-b502e5733506@f30g2000yqa.googlegroups.com>
Source record: 5365

On Mar 30, 5:58 pm, "Richard Fry" <Inva...@Invalid.com> wrote:
> If that helix occupies only about 90 degrees of a free-space wavelength,
> then no matter how much linear wire length is contained in the coils of the
> helix, that helical radiator will have the radiation resistance, pattern and
> directivity characteristics of a 90-degree linear monopole of the same
> end-to-end height.

I just modeled a 5.25' long helical using EZNEC at the 270 degree 3rd harmonic frequency of 26.5 MHz. Both helical and whip are modeled as lossless.

If I understand you correctly, the 270 degree helical should have a TOA equal to a 5.25' whip. The TOAs differ by 6 degrees. The maximum gain of the 5.25' whip is -0.25 dBi. The maximum gain of the 270 degree helical of the same length is +0.29 dBi, a difference of 0.54 dB.

The 5.25' whip is1/4WL resonant at 45.3 MHz with a maximum gain of -0.25 dBi at a TOA of 27 degrees. The 5.25' helical at 45.3 MHz has a gain of -3.13 dBi at a TOA of 24 degrees, a difference of 2.88 dBi and 3 degrees.
--
73, Cecil, w5dxp.com

715. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 08:08:22 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d943679$0$2449$65785112@news.neostrada.pl>
Source record: 5366

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:in0idd$ik6$1@news.jpl.nasa.gov...
> John - KD5YI wrote:
>
>>>
>>> Again, I'm not sure "temperature" is the relevant measure for something
>>> like that. You can define temperature for a very low pressure gas like
>>> this, but it's not in the same sort of sense as one would apply to a
>>> bulk tangible medium (like air at the Earth's surface or water)
>>
>> Isaac Asimov touched on this in his book on physics. He said the
>> temperature up there is high because of the high molecule velocity, but
>> that *heat* is another matter. So, you can have a high "temperature" even
>> if the "heat" is practically nil.
>
>
> I suppose, too, that the whole things still works in terms of, say,
> propagation velocity of sound, because that is driven by velocity of
> molecules/atoms (and is related to square root of Temperature).

Faraday supposed that this apply to the electric waves. Of course there the
electrons vibrate. The relation to temperature of electrons would be easy to
measure.
>
> So, sound propagates very quickly in the ionosphere (it's got a fairly
> high temperature), but because there's not a whole lot of atoms around,
> the attenuation will be quite high (essentially infinite, I suspect)

No. Acoustic waves from the Sun (aurora) are et the Earth quite strong.
>
> And that's totally different than propagating something by EM waves.

Electric waves propagate in metal and in space. In the both media the
electrons vibrate. "I suppose we may compare together the matter of the
aether and ordinary matter (as, for instance, the copper of the wire through
which the electricity is conducted), and consider them as alike in their
essential constitution"(Faraday).
>
>>
>> That makes you correct. One must carefully state what is meant by
>> temperature and what is meant by heat.

It would be easy after Schmidt's experiment in vacuum. There the hot cylider
in air bends the light rays and the shadow diameter is bigger than for the
cold cylinder.

The same experiment in vacuum tell us if speed of light is electrons temperature dependent.
S*

716. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 15:58:07 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <in28ag$1n2$1@dont-email.me>
Source record: 5367

"Cecil Moore" wrote:
>I just modeled a 5.25' long helical using EZNEC at the 270 degree 3rd
>harmonic frequency of 26.5 MHz. Both helical and whip are modeled as
>lossless. If I understand you correctly, the 270 degree helical ...

A normal-mode helical with a radiating aperture of 5.25' is not a "270
degree" radiator on 26.5 MHz. It is a ~ 51 degree radiator on that
frequency.

717. Re: Trap Vertical Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 18:47:47 UTC
From: RobinJF <RobinJF.7dabff8@radiobanter.com>
Message-ID: <RobinJF.7dabff8@radiobanter.com>
Source record: 5370

I am using program that comes ' Microsoft Office 2010 Update Key' (http://www.office2010-key.co.uk/) and I am considering getting Windows 7. I have been shopping online and I have found ' Office Pro 2010 Product Key' (http://www.office-2010-key.de/) and Windows 7 Upgrade. When I think of an upgrade, I think of it as something to improve ' Office Pro Plus 2010 X64' (http://www.office2010-key.in/) I already have. Is this the case with ' Windows 7 Starter Key' (http://www.windows-7-key.in/)? Is it an improvement on Windows 7? If so, why hasn't the upgrade been integrated with the Windows 7 software?

--
RobinJF

718. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 18:49:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1490675c-581b-4328-b9b5-080f269e0310@p16g2000vbo.googlegroups.com>
Source record: 5368

On Mar 31, 10:58 am, "Richard Fry" <Inva...@Invalid.com> wrote:
> A normal-mode helical with a radiating aperture of 5.25' is not a "270
> degree" radiator on 26.5 MHz. It is a ~ 51 degree radiator on that
> frequency.

This is making no sense to me so I fear we have some sort of semantic problem. I'm now not sure what you mean by "a radiating aperture of 5.25 feet". "The IEEE Dictionary" says: "In some cases, the aperture may be considered to be a line." I was assuming that the 5.25 feet aperture was akin to a line of straight wire 5.25 feet long or a 5.25 foot long (end to end) helical monopole. If that is not the case, please enlighten me on your definition of "aperture". EZNEC says my 5.25' (end-to-end) physically tall helical monopole is electrically 270 degrees long.

I assumed that 5.25' is the length of a straight wire or the physical end-to-end length of the helix itself (not the linear length of the wire). The velocity factor of a helix is a function of the helix geometry and *varies widely with diameter and turn spacing*. The helix I designed using EZNEC has a current maximum at the feedpoint, a current minimum 1/3 of the distance up the helix, a current maximum 2/3 of the distance up the helix, and a current minimum at the end of the helix. That's 270 electrical degrees any way you cut it because *there is always 90 electrical degrees between the current maximum and current minimum in a standing wave*.

The requirement that a 5.25' tall helical monopole has to satisfy to be 270 electrical degrees long on 26.5 MHz is to have a velocity factor of 5.25/27.85 = 0.1885 which is a piece of cake. The 5.25' is the actual end-to-end height of the helical monopole and the 27.85' is 3/4 of a wavelength in free space at 26.5 MHz.

Note that the velocity factor is the distance a traveling wave travels in the helical medium in unit time compared to the distance a traveling wave travels in free space in the same unit time.

Richard, this is giving me a headache - what am I missing?
--
73, Cecil, w5dxp.com

719. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 19:36:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e128471a-9cfe-4a44-9b5d-a7367a3b4a42@c26g2000vbq.googlegroups.com>
Source record: 5369

On Mar 31, 10:58 am, "Richard Fry" <Inva...@Invalid.com> wrote:
> A normal-mode helical with a radiating aperture of 5.25' is not a "270
> degree" radiator on 26.5 MHz. It is a ~ 51 degree radiator on that
> frequency.

Sorry, I just noticed you are talking about physical length rather
than electrical length. Do you agree that the helical is 270 degrees
long *electrically* because there are two current maximum points and
two current minimum points on the helical antenna that is 5.25 feet
long?

FP-Imax-////////////////////-Imin-////////////////////-
Imax-////////////////////-Imin

The Imax points are 3.5 feet apart. They are not very far apart
compared to wavelength (~0.1WL) but they are far enough apart to raise
the take-off-angle by 6 degrees for my particular helical according to
EZNEC. With everything else being equal, when a 5.25 foot helical
antenna has more than one current maximum point on the antenna, it
will raise the take-off-angle by an amount correlated to the
percentage of a wavelength spacing between the two current maximum
points.

Conclusion: What you have said seems to be a fact for antennas with
only one current maximum. The presence of two (or more) current
maximum points on the antenna modifies the take-off-angle according to
the laws of radiation physics which is demonstrated by NEC using the
method-of-moments algorithms. A 5.25' end-to-end helical is not the
same as a "~51 degrees radiator on 26.5 MHz" when it has two (or more)
current maximum points separated by, e.g. 0.1WL. The two take-off-
angles are 20% different just as they should be.
--
73, Cecil, w5dxp.com

720. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 23:43:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4d9511ab$0$6699$8046368a@newsreader.iphouse.net>
Source record: 5371

On 3/30/2011 12:23 PM, Tom Horne wrote:
>
> Richard
> I wanted to explore whether it is practical to have my collinear dual
> half wave J-pole serve as a dual band antenna. If it were practical I
> would want the same gain on seventy centimeters that I have been
> getting out of the dual stacked half wave on two meters. The
> available testing that I was able to find says that it is 6 DB over a
> quarter wave vertical. What I would happily settle for would be for
> it to have the same gain on seventy centimeters as the dual band
> simple J-pole I am using now. After talking to Rol Anders, K3RA; who
> was the instructor for my Extra theory class and is the present
> chairman of the Question Pool Committee of the National Council of
> Volunteer Examiner Coordinators (NCVEC); last night I am taking that
> later approach. That is the approach that I outlined in the first
> paragraph of just putting an open blocking stub for UHF at thirty five
> centimeters ~ up the lower two meter half wave and therefore below the
> two meter phasing stub between the two meter half wave segments. That
> has the virtue of being simple and still giving me a dual band antenna
> that has better gain on UHF then the unmodified two meter antenna
> would.
>
> I wanted a dual band antenna because I only have three suitable
> mounting points on my home and I already have plans for a six meter J-
> pole and an anemometer / sensor array assembly on the other two. I
> have an Arrow dual band J-pole up on that mounting point right now but
> I wanted to return to the higher gain of the collinear dual half wave
> J-pole that gave me so much better real world performance on two
> meters. It is my hope that just adding the seventy centimeter band
> blocking stub to the collinear antenna's lower two meter half wave
> segment will do the trick.
>
> --
> Tom Horne, W3TDH

http://www.arrowantenna.info/osj/j-pole.html

This design works moderately well. Drive the 19.25 inch element. The
51 inch element is the radiator on 2m, the 6.xx inch element makes the
19.25 inch one radiate on 440. The thing isn't great on 440 because the
51 inch portion is there. It is rugged though.

I built a duplicate, which you can do if you look at all the parts pages
on the site. The main problem, same as all J poles, is common mode
current issues on the feedline.

tom
K0TAR

721. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-03-31 23:46:22 UTC
From: tom <news4792@taring.org>
Message-ID: <4d95124a$0$6699$8046368a@newsreader.iphouse.net>
Source record: 5372

On 3/31/2011 6:43 PM, tom wrote:
> On 3/30/2011 12:23 PM, Tom Horne wrote:
>>
>> Richard
>> I wanted to explore whether it is practical to have my collinear dual
>> half wave J-pole serve as a dual band antenna. If it were practical I
>> would want the same gain on seventy centimeters that I have been
>> getting out of the dual stacked half wave on two meters. The
>> available testing that I was able to find says that it is 6 DB over a
>> quarter wave vertical. What I would happily settle for would be for
>> it to have the same gain on seventy centimeters as the dual band
>> simple J-pole I am using now. After talking to Rol Anders, K3RA; who
>> was the instructor for my Extra theory class and is the present
>> chairman of the Question Pool Committee of the National Council of
>> Volunteer Examiner Coordinators (NCVEC); last night I am taking that
>> later approach. That is the approach that I outlined in the first
>> paragraph of just putting an open blocking stub for UHF at thirty five
>> centimeters ~ up the lower two meter half wave and therefore below the
>> two meter phasing stub between the two meter half wave segments. That
>> has the virtue of being simple and still giving me a dual band antenna
>> that has better gain on UHF then the unmodified two meter antenna
>> would.
>>
>> I wanted a dual band antenna because I only have three suitable
>> mounting points on my home and I already have plans for a six meter J-
>> pole and an anemometer / sensor array assembly on the other two. I
>> have an Arrow dual band J-pole up on that mounting point right now but
>> I wanted to return to the higher gain of the collinear dual half wave
>> J-pole that gave me so much better real world performance on two
>> meters. It is my hope that just adding the seventy centimeter band
>> blocking stub to the collinear antenna's lower two meter half wave
>> segment will do the trick.
>>
>> --
>> Tom Horne, W3TDH
>
> http://www.arrowantenna.info/osj/j-pole.html
>
> This design works moderately well. Drive the 19.25 inch element. The 51
> inch element is the radiator on 2m, the 6.xx inch element makes the
> 19.25 inch one radiate on 440. The thing isn't great on 440 because the
> 51 inch portion is there. It is rugged though.
>
> I built a duplicate, which you can do if you look at all the parts pages

> on the site. The main problem, same as all J poles, is common mode
> current issues on the feedline.
>
> tom
> K0TAR

Sorry, missed the part where you already have this antenna. My fault
for not reading the whole post until after I responded.

tom
K0TAR

722. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 00:10:23 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <in355gsun1@dont-email.me>
Source record: 5373

Cecil -

The link below shows the NEC-2D results for the 3-m monopole whose geometry I posted earlier -- at its frequency of first self-resonance, and at 3X that frequency.

We don't disagree as far as current distribution is concerned, but maybe in the belief that such a helix at an operating frequency that is 3X its first resonance has a practical benefit for users.

The reason that it may not is traceable to the radiation resistances at each frequency w.r.t. a fixed amount of antenna system loss.

http://i62.photobucket.com/albums/h85/rfry-100/Helix3rd_Harmonic.gif

723. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 00:26:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a58d56d5-8d36-4cd9-bf26-faf551722e85@f2g2000yqf.googlegroups.com>
Source record: 5374

On Mar 31, 7:10 pm, "Richard Fry" <Inva...@Invalid.com> wrote:
> We don't disagree as far as current distribution is concerned, but maybe in
> the belief that such a helix at an operating frequency that is 3X its first
> resonance has a practical benefit for users.

I'm not saying that it has a benefit - just that a 270 degree
electrically long antenna can never have the same radiation pattern as
a 51 degree physical whip even if the physical length of the 270
degree helical antenna is physically 51 degrees.

To be clear on what I am saying: Up to a certain percentage of a
wavelength, the physical length of the antenna dictates the radiation
pattern. Above that percentage of a wavelength, the theory falls
apart.

It is akin to assuming that the current distribution in the top
portion of a monopole is a straight line. At some point, the straight
line assumption fails because the current distribution is actually
sinusoidal.
--
73, Cecil, w5dxp.com

724. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 00:31:17 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <in36cobbm4@dont-email.me>
Source record: 5375

On 3/31/2011 7:26 PM, Cecil Moore wrote:
> On Mar 31, 7:10 pm, "Richard Fry"<Inva...@Invalid.com> wrote:
>> We don't disagree as far as current distribution is concerned, but maybe in
>> the belief that such a helix at an operating frequency that is 3X its first
>> resonance has a practical benefit for users.
>
> I'm not saying that it has a benefit - just that a 270 degree
> electrically long antenna can never have the same radiation pattern as
> a 51 degree physical whip even if the physical length of the 270
> degree helical antenna is physically 51 degrees.
>
> To be clear on what I am saying: Up to a certain percentage of a
> wavelength, the physical length of the antenna dictates the radiation
> pattern. Above that percentage of a wavelength, the theory falls
> apart.
>
> It is akin to assuming that the current distribution in the top
> portion of a monopole is a straight line. At some point, the straight
> line assumption fails because the current distribution is actually
> sinusoidal.
> --
> 73, Cecil, w5dxp.com

Cecil -

Do you have an EZnec file you can post? I'd like to see what you're doing.

Thanks es 73,
John

725. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 05:34:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0noap6h6lrfcrglcl0bihg0m403j7jtc94@4ax.com>
Source record: 5376

On Thu, 31 Mar 2011 18:46:22 -0500, tom <news4792@taring.org> wrote:

>> http://www.arrowantenna.info/osj/j-pole.html
>>
>> This design works moderately well. Drive the 19.25 inch element. The 51
>> inch element is the radiator on 2m, the 6.xx inch element makes the
>> 19.25 inch one radiate on 440. The thing isn't great on 440 because the
>> 51 inch portion is there. It is rugged though.
>>
>> I built a duplicate, which you can do if you look at all the parts pages
>> on the site. The main problem, same as all J poles, is common mode
>> current issues on the feedline.
>>
>> tom
>> K0TAR
>
>Sorry, missed the part where you already have this antenna. My fault
>for not reading the whole post until after I responded.

Hi Tom,

Your suggestion would have been my choice too - except for Tom's first purchase choice. The open stub has always seemed to be a more natural feed method.

The addition of the parasitic radiator is still an option for any design.

73's
Richard Clark, KB7QHC

726. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 06:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1301637601@panix.com>
Source record: 5377
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

727. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 11:57:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7cb500f4-1d4d-4fe0-aa1f-99ffa01d8f09@f30g2000yqa.googlegroups.com>
Source record: 5378

On Mar 31, 7:31 pm, John - KD5YI <soph...@invalid.org> wrote:
> Do you have an EZnec file you can post? I'd like to see what you're doing.

It is at:

http://www.w5dxp.com/helix.EZ

The 90 degree (1/4WL) resonant frequency is 10.067 MHz where the TOA
is 150 degrees.

The 270 degree (3/4WL) resonant frequency is 26.493 MHz where the TOA
is 155 degrees.

The difference in TOA is because of the two current maximum points at
26.493 MHz.

The 180 degree (1/2WL) resonant frequency is 16.6254 MHz where the TOA
is 29 degrees. Raising the single current maximum point from the
feedpoint to the midpoint of the helical monopole only moves it by
2.625 feet which is 0.0444WL (16 physical degrees) and that lowers the
TOA by one degree. Since the 1/2WL helical contains twice as much
wire as the 1/4WL helical, I don't see any advantage for the 1/2WL
helical over the 1/4WL helical except for the elevated current maximum
point which may require a less robust radial system.

The "Currents" button on EZNEC will display the current magnitude/
phase in the helical segments.
--
73, Cecil, w5dxp.com

728. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 13:06:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7e0e6db0-5a6b-41e4-9eb2-688ba542267f@b11g2000yqc.googlegroups.com>
Source record: 5380

On Apr 1, 6:57 am, Cecil Moore <w5...@hotmail.com> wrote:
> I don't see any advantage for the 1/2WL
> helical over the 1/4WL helical except for the elevated current maximum
> point which may require a less robust radial system.

I just modeled the 1/4WL helical vs the 1/2WL helical with 4 elevated
radials and copper wire losses. The 1/2WL helical gain is 1.23 dB
higher than the 1/4WL helical gain and the TOA is 2 degrees lower for
the 1/2WL version.
--
73, Cecil, w5dxp.com

729. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 13:14:11 UTC
From: joe <none@domain.invalid>
Message-ID: <in4ijsutg1@speranza.aioe.org>
Source record: 5379

Szczepan Bialek wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:in0idd$ik6$1@news.jpl.nasa.gov...
>> John - KD5YI wrote:
>>
>>>> Again, I'm not sure "temperature" is the relevant measure for something
>>>> like that. You can define temperature for a very low pressure gas like
>>>> this, but it's not in the same sort of sense as one would apply to a
>>>> bulk tangible medium (like air at the Earth's surface or water)
>>> Isaac Asimov touched on this in his book on physics. He said the
>>> temperature up there is high because of the high molecule velocity, but
>>> that *heat* is another matter. So, you can have a high "temperature" even
>>> if the "heat" is practically nil.
>>
>> I suppose, too, that the whole things still works in terms of, say,
>> propagation velocity of sound, because that is driven by velocity of
>> molecules/atoms (and is related to square root of Temperature).
>
> Faraday supposed that this apply to the electric waves.

He was wrong.

Of course there the
> electrons vibrate. The relation to temperature of electrons would be easy to
> measure.

No, you have this wrong.

>> So, sound propagates very quickly in the ionosphere (it's got a fairly
>> high temperature), but because there's not a whole lot of atoms around,
>> the attenuation will be quite high (essentially infinite, I suspect)
>
> No. Acoustic waves from the Sun (aurora) are et the Earth quite strong.

"acoustic waves" whatever you think they are do not propagate through a
vacuum. The aurora is NOT caused by acoustic waves.

>> And that's totally different than propagating something by EM waves.
>
> Electric waves propagate in metal and in space. In the both media the
> electrons vibrate.

But that is not how the waves propagate. In either material.

"I suppose we may compare together the matter of the
> aether and ordinary matter (as, for instance, the copper of the wire through
> which the electricity is conducted), and consider them as alike in their

> essential constitution"(Faraday).

But this is wrong. You refuse to accept that 100+ year old statements
may be, and quite often are, wrong.

>>> That makes you correct. One must carefully state what is meant by
>>> temperature and what is meant by heat.
>
> It would be easy after Schmidt's experiment in vacuum. There the hot cylider
> in air bends the light rays and the shadow diameter is bigger than for the
> cold cylinder.
> The same experiment in vacuum tell us if speed of light is electrons
> temperature dependent.

If you spent some time to understand the basic concepts, you might
realize just how wrong you are.

> S*
>
>

What is the point of all this? You refuse to try to understand the basic
concepts, yet want to dig into the more esoteric stuff.

730. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 13:27:25 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b5952dd1-c722-48f5-8b97-72cd519fd14c@j13g2000yqj.googlegroups.com>
Source record: 5381

On 1 abr, 13:57, Cecil Moore <w5...@hotmail.com> wrote:
> On Mar 31, 7:31 pm, John - KD5YI <soph...@invalid.org> wrote:
>
> > Do you have an EZnec file you can post? I'd like to see what you're doing.
>
> It is at:
>
> http://www.w5dxp.com/helix.EZ
>
> The 90 degree (1/4WL) resonant frequency is 10.067 MHz where the TOA
> is 150 degrees.
>
> The 270 degree (3/4WL) resonant frequency is 26.493 MHz where the TOA
> is 155 degrees.
>
> The difference in TOA is because of the two current maximum points at
> 26.493 MHz.
>
> The 180 degree (1/2WL) resonant frequency is 16.6254 MHz where the TOA
> is 29 degrees. Raising the single current maximum point from the
> feedpoint to the midpoint of the helical monopole only moves it by
> 2.625 feet which is 0.0444WL (16 physical degrees) and that lowers the
> TOA by one degree. Since the 1/2WL helical contains twice as much
> wire as the 1/4WL helical, I don't see any advantage for the 1/2WL
> helical over the 1/4WL helical except for the elevated current maximum
> point which may require a less robust radial system.

Hello Cecil, for me the radial / counterpoise issue is a big advantage
of electrically (near) half wave structures (think of JOTA). As we use
100W maximum, high voltage at the feed point isn't a breakpoint mostly
(I have some CW Tesla coil experience).

73, Wim, PA3DJS, www.tetech.nl.

731. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 14:58:28 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <in4p6o$r1l$1@dont-email.me>
Source record: 5382

On 4/1/2011 6:57 AM, Cecil Moore wrote:
> On Mar 31, 7:31 pm, John - KD5YI<soph...@invalid.org> wrote:
>> Do you have an EZnec file you can post? I'd like to see what you're doing.
>
> It is at:
>
> http://www.w5dxp.com/helix.EZ
>

Thanks, Cecil.

John

732. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 16:54:44 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d960359$0$2443$65785112@news.neostrada.pl>
Source record: 5383

```
"joe" <none@domain.invalid> napisal w wiadomosci
news:in4ijs$utg$1@speranza.aioe.org...
> Szczepan Bialek wrote:
>> "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>> news:in0idd$ik6$1@news.jpl.nasa.gov...
>>> John - KD5YI wrote:
>>>
>>>>> Again, I'm not sure "temperature" is the relevant measure for
>>>>> something
>>>>> like that. You can define temperature for a very low pressure gas like
>>>>> this, but it's not in the same sort of sense as one would apply to a
>>>>> bulk tangible medium (like air at the Earth's surface or water)
>>>> Isaac Asimov touched on this in his book on physics. He said the
>>>> temperature up there is high because of the high molecule velocity, but
>>>> that *heat* is another matter. So, you can have a high "temperature"
>>>> even if the "heat" is practically nil.
>>>
>>> I suppose, too, that the whole things still works in terms of, say,
>>> propagation velocity of sound, because that is driven by velocity of
>>> molecules/atoms (and is related to square root of Temperature).
>>
>> Faraday supposed that this apply to the electric waves.
>
> He was wrong.

Why. Molecules and ions vibrate. Electrons also.
>
> Of course there the
>> electrons vibrate. The relation to temperature of electrons would be easy
>> to measure.
>
>
> No, you have this wrong.

>
>>> So, sound propagates very quickly in the ionosphere (it's got a fairly
>>> high temperature), but because there's not a whole lot of atoms around,
>>> the attenuation will be quite high (essentially infinite, I suspect)
>>
>> No. Acoustic waves from the Sun (aurora) are at the Earth quite strong.
>
> "acoustic waves" whatever you think they are do not propagate through a
> vacuum.
```

"The Earth is constantly immersed in the solar wind, a rarefied flow of hot plasma (gas of free electrons and positive ions) emitted by the Sun in all directions, a result of the two-million-degree heat of the Sun's outermost layer, the corona. The solar wind usually reaches Earth with a velocity around 400 km/s, density around 5 ions/cm3 and magnetic field intensity around 2-5 nT (nanoteslas; Earth's surface field is typically 30,000-50,000 nT). These are typical values. During magnetic storms, in particular, flows can be several times faster; the interplanetary magnetic field (IMF) may also be much stronger."

>The aurora is NOT caused by acoustic waves.

" In the explosive event that a coronal mass ejection (CME) is reported it's time to hop into action because this super-charged solar wind is traveling fast (maybe 3-to-5 million miles per hour). When this energy sweeps by the earth 1-to-3 nights later there is a very good chance of aurora activity". From: http://aurorahunter.com/aurora-prediction.php

Do you think that ions and atoms in the solar wind do not vibrate?

>
>>> And that's totally different than propagating something by EM waves.
>>
>> Electric waves propagate in metal and in space. In the both media the
>> electrons vibrate.
>
> But that is not how the waves propagate. In either material.

How then?
>
>
> "I suppose we may compare together the matter of the
>> aether and ordinary matter (as, for instance, the copper of the wire
>> through which the electricity is conducted), and consider them as alike
>> in their essential constitution"(Faraday).
>
> But this is wrong. You refuse to accept that 100+ year old statements may
> be, and quite often are, wrong.

Heaviside's statements are also old.
>
>
>>>> That makes you correct. One must carefully state what is meant by
>>>> temperature and what is meant by heat.
>>
>> It would be easy after Schmidt's experiment in vacuum. There the hot
>> cylider in air bends the light rays and the shadow diameter is bigger
>> than for the cold cylinder.
>> The same experiment in vacuum tell us if speed of light is electrons
>> temperature dependent.
>
> If you spent some time to understand the basic concepts, you might realize
> just how wrong you are.

>
> What is the point of all this? You refuse to try to understand the basic
> concepts, yet want to dig into the more esoteric stuff.

The topic is: " It was known that different frequencies travel with
different speeds on a
long cable".

Is the same in air and space?"

The answers were YES.

What do you want to add?
S*

733. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-01 22:51:39 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <in5kti$6m2$1@news.jpl.nasa.gov>
Source record: 5384

Szczepan Bialek wrote:
>
>
> "The Earth is constantly immersed in the solar wind, a rarefied flow of hot
> plasma (gas of free electrons and positive ions) emitted by the Sun in all
> directions, a result of the two-million-degree heat of the Sun's outermost
> layer, the corona. The solar wind usually reaches Earth with a velocity
> around 400 km/s, density around 5 ions/cm3 and magnetic field intensity
> around 2-5 nT (nanoteslas; Earth's surface field is typically 30,000-50,000
> nT). These are typical values. During magnetic storms, in particular, flows
> can be several times faster; the interplanetary magnetic field (IMF) may
> also be much stronger."
>

Sure... the number density of ionized particles is somewhat bigger than
the 5/cc you describe above, so solar wind is actually not a big
contributor to it. Most of the ionization comes from UV ionizing the
air atoms/molecules. (that's what the whole daytime sky wave off the F
layer is all about, after all.. working Australia from the California on
20 meters at 5AM CA time probably isn't a good bet)

>> The aurora is NOT caused by acoustic waves.
>
> " In the explosive event that a coronal mass ejection (CME) is reported it's
> time to hop into action because this super-charged solar wind is traveling
> fast (maybe 3-to-5 million miles per hour). When this energy sweeps by the
> earth 1-to-3 nights later there is a very good chance of aurora activity".
> From: http://aurorahunter.com/aurora-prediction.php

That's not acoustic. That's just particles streaming out into space,
and because there's not many other particles to bump into, most of them
get to Earth

734. Re: the hands of the sword could

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 01:48:38 UTC
From: TimSerVlad <TimSerVlad.7dc65d8@radiobanter.com>
Message-ID: <TimSerVlad.7dc65d8@radiobanter.com>
Source record: 5386

Good afternoon.
We are a group of volunteers who care about the fate of those who got into trouble.
We urge all people to help the citizens of Japan. In the Czech Republic we have organized a fundraising drive. They are very necessary for those who remained without a roof over your head. Hope very much for your help. One we can not cope with this tragedy. All the money will pass to the Embassy of Japan.
Provide a report on the use of money.
Requisites for conversion to U.S. dollars:

Account name:
Sergey Timofeev
Account number:
600 617 50 01
Bank code:
5500
IBAN:
CZ77 5500 0000 0060 0617 5001
SWIFT/BIC:
RZBCCZPP
Bank address:
Raiffeisenbank, a.s.
Hvezdova 1716/2b
Prague
Czech Republic

Answer all questions. Write to timservlad@yahoo.com
Thank you all for your help.

--
TimSerVlad

735. adult hot photos&videos

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 04:13:56 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <96218fdc-e867-4474-a8e8-ca6c5fd0802e@j11g2000prn.googlegroups.com>
Source record: 5385

hot lipkiss
http://hotactressstoyou.blogspot.com/2011/04/lipkiss-2.html
lipkiss in without dress
http://hotactressstoyou.blogspot.com/2011/04/lipkiss.html
seepika padukone sexy back look
http://hotactressstoyou.blogspot.com/2011/04/deepika-padukone.html
sexy katrina kaif
http://hotactressstoyou.blogspot.com/2011/04/katrina-kaif.html
beauty keerthi chawla
http://hotactressstoyou.blogspot.com/2011/04/keerthi-chawla.html
saloni sexy photos
http://hotactressstoyou.blogspot.com/2011/04/saloni.html
deeksha seth in a hot saree
http://hotactressstoyou.blogspot.com/2011/04/deeksha-seth.html
asin hot wallpapers
http://hotactressstoyou.blogspot.com/2011/04/asin.html
ramba in a red dress
http://hotactressstoyou.blogspot.com/2011/04/ramba.html
sexy ilieana is in scert
http://hotactressstoyou.blogspot.com/2011/04/ileana.html

736. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 07:48:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d96d4b5$1$2484$65785112@news.neostrada.pl>
Source record: 5387

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:in5kti$6m2$1@news.jpl.nasa.gov...
> Szczepan Bialek wrote:
>>
>>
>> "The Earth is constantly immersed in the solar wind, a rarefied flow of
>> hot plasma (gas of free electrons and positive ions) emitted by the Sun
>> in all directions, a result of the two-million-degree heat of the Sun's
>> outermost layer, the corona. The solar wind usually reaches Earth with a
>> velocity around 400 km/s, density around 5 ions/cm3 and magnetic field
>> intensity around 2-5 nT (nanoteslas; Earth's surface field is typically
>> 30,000-50,000 nT). These are typical values. During magnetic storms, in
>> particular, flows can be several times faster; the interplanetary
>> magnetic field (IMF) may also be much stronger."
>>
>
> Sure... the number density of ionized particles is somewhat bigger than
> the 5/cc you describe above, so solar wind is actually not a big
> contributor to it. Most of the ionization comes from UV ionizing the air
> atoms/molecules. (that's what the whole daytime sky wave off the F layer
> is all about, after all.. working Australia from the California on 20
> meters at 5AM CA time probably isn't a good bet)

In space is also the dust. The ionized particles can come from them also.
The Moon is a big dust.
>
>>> The aurora is NOT caused by acoustic waves.
>>
>> " In the explosive event that a coronal mass ejection (CME) is reported
>> it's time to hop into action because this super-charged solar wind is
>> traveling fast (maybe 3-to-5 million miles per hour). When this energy
>> sweeps by the earth 1-to-3 nights later there is a very good chance of
>> aurora activity". From: http://aurorahunter.com/aurora-prediction.php
>
>
> That's not acoustic. That's just particles streaming out into space, and
> because there's not many other particles to bump into, most of them get to
> Earth

Cars produce the hot wind (exhaust pipe) with the acoustic waves. Is
possible to produce only streaming?
There must be the oscillatory flow.
S*

737. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 11:22:25 UTC
From: k1ttt@pstn2.net
Message-ID: <a3184837-4047-4f93-ba24-5ceec1ede1e0@w21g2000yqm.googlegroups.com>
Source record: 5388

On Apr 2, 7:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Jim Lux" <james.p....@jpl.nasa.gov> napisal w
wiadomoscinews:in5kti$6m2$1@news.jpl.nasa.gov...
>
>
>
> > Szczepan Bialek wrote:
>
> >> "The Earth is constantly immersed in the solar wind, a rarefied flow of
> >> hot plasma (gas of free electrons and positive ions) emitted by the Sun
> >> in all directions, a result of the two-million-degree heat of the Sun's
> >> outermost layer, the corona. The solar wind usually reaches Earth with a
> >> velocity around 400 km/s, density around 5 ions/cm3 and magnetic field
> >> intensity around 2-5 nT (nanoteslas; Earth's surface field is typically
> >> 30,000-50,000 nT). These are typical values. During magnetic storms, in
> >> particular, flows can be several times faster; the interplanetary
> >> magnetic field (IMF) may also be much stronger."
>
> > Sure... the number density of ionized particles is somewhat bigger than
> > the 5/cc you describe above, so solar wind is actually not a big
> > contributor to it. Most of the ionization comes from UV ionizing the air
> > atoms/molecules. (that's what the whole daytime sky wave off the F layer
> > is all about, after all.. working Australia from the California on 20
> > meters at 5AM CA time probably isn't a good bet)
>
> In space is also the dust. The ionized particles can come from them also.
> The Moon is a big dust.
>
>
>
> >>> The aurora is NOT caused by acoustic waves.
>
> >> " In the explosive event that a coronal mass ejection (CME) is reported
> >> it's time to hop into action because this super-charged solar wind is
> >> traveling fast (maybe 3-to-5 million miles per hour). When this energy
> >> sweeps by the earth 1-to-3 nights later there is a very good chance of
> >> aurora activity". From:http://aurorahunter.com/aurora-prediction.php
>
> > That's not acoustic. That's just particles streaming out into space, and
> > because there's not many other particles to bump into, most of them get to
> > Earth
>
> Cars produce the hot wind (exhaust pipe) with the acoustic waves. Is
> possible to produce only streaming?

> There must be the oscillatory flow.
> S*

you produce hot wind also... you should learn to listen and get into this century. no, the solar wind is not oscillatory, it flows from the sun all the way past pluto. it also varies in speed quite a bit so if the light was being propagated by the particles in the solar wind we would see large changes in the velocity and intensity coming from the sun that would be very easy to measure, and would likely have killed off all life long ago.

738. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 16:05:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d974966$1$2491$65785112@news.neostrada.pl>
Source record: 5389

<k1ttt@pstn2.net> napisal w wiadomosci
news:a3184837-4047-4f93-ba24-5ceec1ede1e0@w21g2000yqm.googlegroups.com...
On Apr 2, 7:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Jim Lux" <james.p....@jpl.nasa.gov> napisal w
> wiadomoscinews:in5kti$6m2$1@news.jpl.nasa.gov...
>
>
>
> > Szczepan Bialek wrote:
>
> >> "The Earth is constantly immersed in the solar wind, a rarefied flow of
> >> hot plasma (gas of free electrons and positive ions) emitted by the Sun
> >> in all directions, a result of the two-million-degree heat of the Sun's
> >> outermost layer, the corona. The solar wind usually reaches Earth with
> >> a
> >> velocity around 400 km/s, density around 5 ions/cm3 and magnetic field
> >> intensity around 2-5 nT (nanoteslas; Earth's surface field is typically
> >> 30,000-50,000 nT). These are typical values. During magnetic storms, in
> >> particular, flows can be several times faster; the interplanetary
> >> magnetic field (IMF) may also be much stronger."
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> > Sure... the number density of ionized particles is somewhat bigger than
> > the 5/cc you describe above, so solar wind is actually not a big
> > contributor to it. Most of the ionization comes from UV ionizing the air
> > atoms/molecules. (that's what the whole daytime sky wave off the F layer
> > is all about, after all.. working Australia from the California on 20
> > meters at 5AM CA time probably isn't a good bet)
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> In space is also the dust. The ionized particles can come from them also.
> The Moon is a big dust.
>
>
>
> >>> The aurora is NOT caused by acoustic waves.
>
> >> " In the explosive event that a coronal mass ejection (CME) is reported
> >> it's time to hop into action because this super-charged solar wind is
> >> traveling fast (maybe 3-to-5 million miles per hour). When this energy
> >> sweeps by the earth 1-to-3 nights later there is a very good chance of
> >> aurora activity". From: http://aurorahunter.com/aurora-prediction.php
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> > That's not acoustic. That's just particles streaming out into space, and
> > because there's not many other particles to bump into, most of them get
> > to

> > Earth
>
> Cars produce the hot wind (exhaust pipe) with the acoustic waves. Is
> possible to produce only streaming?
> There must be the oscillatory flow.
> S*

<you produce hot wind also...

But also with nois.

< you should learn to listen and get into this century. no, the solar wind
is not oscillatory,

Yes. But if no the sunspost (explosions).

<it flows from the sun all the way past pluto. it also varies in speed
quite a bit
so if the light was being propagated by the particles in the solar
wind we would see large changes in the velocity and intensity coming
from the sun that would be very easy to measure

Good idea. Have you a procedure for such measurements. But the changes are
rather small.

<, and would likely have killed off all life long ago.

The changes makes auroras only.
S*

739. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 19:06:16 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <a03dc9a2-6261-4695-9e4f-34db7fcf5676@p16g2000yqb.googlegroups.com>
Source record: 5390

On Apr 1, 1:34 am, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 31 Mar 2011 18:46:22 -0500, tom <news4...@taring.org> wrote:
> >>http://www.arrowantenna.info/osj/j-pole.html
>
> >> This design works moderately well. Drive the 19.25 inch element. The 51
> >> inch element is the radiator on 2m, the 6.xx inch element makes the
> >> 19.25 inch one radiate on 440. The thing isn't great on 440 because the
> >> 51 inch portion is there. It is rugged though.
>
> >> I built a duplicate, which you can do if you look at all the parts pages
> >> on the site. The main problem, same as all J poles, is common mode
> >> current issues on the feedline.
>
> >> tom
> >> K0TAR
>
> >Sorry, missed the part where you already have this antenna. My fault
> >for not reading the whole post until after I responded.
>
> Hi Tom,
>
> Your suggestion would have been my choice too - except for Tom's first
> purchase choice. The open stub has always seemed to be a more natural
> feed method.
>
> The addition of the parasitic radiator is still an option for any
> design.
>
> 73's
> Richard Clark, KB7QHC

Richard
I didn't ignore choking the feed line but I will readily confess that
I did not choke it twice. Starting immediately below the bottom of
the matching stub I followed the recommendation of the various authors
and wound a multi-turn coax balun with a six inch diameter coils of
coax. They call for ten turns if I recall correctly. I was not aware
of the need for a second choke at one quarter wavelength away. Do you
have the energy to explain why that is necessary? How critical is the
length between the two chokes. Do I use the middle of the two chokes
as my measuring points? Could I substitute a one to one current balun
built of ferrite beads? That would have a less intrusive appearance
and accumulate less ice in the winter.
If you check the link that I gave for Ed Fong's dual band j-pole;

available here
<http://f1.grp.yahoofs.com/v1/
kL6QTZLk1DQjM_Cn3vuvnsLUIuEsvRHSqUZyX2mw294a7mYKkc
\FBIXXlRY_6QxreqNWVpn0b7Dogiw9LafU63W429yoO/DBJ2_port_art.pdf> or just
look it up in the files section of the Yahoo reflector; you will see
that he did test it in the field with fairly sophisticated
instrumentation. He uses a trapped radiator to obtain similar gain on
seventy centimeters as a simple J-pole without the trap gets on two
meters. His work was published in QST and I didn't find any
authoritative repudiation, or even strong criticism, of his design.
Why would the presence of the trap in the lower half wave of the two
meter collinear half wave J-pole wreck the tuning on two meters.

I'm only trying to learn here.
--
Tom Horne, W3TDH

740. Fiberglass flagpole as antenna support?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 20:31:10 UTC
From: Maude Herr-Chodt <maude@herr.chodt.org>
Message-ID: <4j4mjh.9m6.19.1@news.alt.net>
Source record: 5391

Currently my low-bands antenna consists of a sloping inverted vee. The center insulator is attached at the chimney support on the back of the house at about 27 feet above ground and is fed with open-wire line, which drops straight down into the basement shack. Each leg of the dipole is 75 feet long with 60 feet between the center insulator and a 12 foot 2x4 at the two fence corners. The last 15 feet of each leg then makes a 90 degree bend and is fastened to the fence top at five feet above ground.

The antenna in its current configuration seems to put out a good signal, about what one would expect for an antenna at this height. I have been thinking about adding a 40 foot self-supporting fiberglass pole at the center of the back yard fence. This would allow me to lengthen each leg by about 22 feet, and the two legs could be connected to an insulator mounted on the flagpole. In this configuration the ends of the legs would be elevated to an height of 40 feet. I could also remove the insulator, and by joining the two ends I would have a loop antenna with total length of about 194 feet.

Before expending money and time on this antenna modification, I would be interested in comments about what, if anything, I might expect in improved antenna performance.

741. Re: Fiberglass flagpole as antenna support?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 22:19:16 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <DYSdnSpO2s1FDwrQnZ2dnUVZ_qqdnZ2d@earthlink.com>
Source record: 5392

"Maude Herr-Chodt" <maude@herr.chodt.org> wrote in message
news:4j4mjh.9m6.19.1@news.alt.net...
> Currently my low-bands antenna consists of a sloping inverted vee. The
> center insulator is attached at the chimney support on the back of the
> house at about 27 feet above ground and is fed with open-wire line, which
> drops straight down into the basement shack. Each leg of the dipole is 75
> feet long with 60 feet between the center insulator and a 12 foot 2x4 at
> the two fence corners. The last 15 feet of each leg then makes a 90 degree
> bend and is fastened to the fence top at five feet above ground.
>
> The antenna in its current configuration seems to put out a good signal,
> about what one would expect for an antenna at this height. I have been
> thinking about adding a 40 foot self-supporting fiberglass pole at the
> center of the back yard fence. This would allow me to lengthen each leg by
> about 22 feet, and the two legs could be connected to an insulator mounted
> on the flagpole. In this configuration the ends of the legs would be
> elevated to an height of 40 feet. I could also remove the insulator, and
> by joining the two ends I would have a loop antenna with total length of
> about 194 feet.
>
> Before expending money and time on this antenna modification, I would be
> interested in comments about what, if anything, I might expect in improved
> antenna performance.

At best, most any wire antenna for 80 meters below 100 feet or so is just a
crap shoot. The new configuration you want to use will probably work beter
in some directions and distances and worse in others.
If the pole did not cost too much, it may help if you can get the center of
the dipole up to 40 feet and the ends up some also.

742. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 22:42:49 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <in88pande1@dont-email.me>
Source record: 5393

Followup -- the link below compares the relative current distribution, directivity and radiation efficiency of a helical and a linear radiator system when the helical radiator described in my earlier post is operating at the frequency of its first self-resonance, and the linear monopole height is set for its first self-resonance at that same frequency.

It is interesting to note that linear form has better performance than the helical form.

http://i62.photobucket.com/albums/h85/rfry-100/Helix__Linear_1st_Resonance.gif

743. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 23:04:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <oi8fp6tdspp6o2ofppgr71lu7csim59pmn@4ax.com>
Source record: 5394

On Sat, 2 Apr 2011 12:06:16 -0700 (PDT), Tom Horne <hornetd@gmail.com>
wrote:

>Richard
>I didn't ignore choking the feed line but I will readily confess that
>I did not choke it twice. Starting immediately below the bottom of
>the matching stub I followed the recommendation of the various authors
>and wound a multi-turn coax balun with a six inch diameter coils of
>coax. They call for ten turns if I recall correctly.

Hi Tom,

This sound like very common advice - so common that it begs
investigation because it is common advice for HF Choking, not 2M, and
certainly not 70cm. However, this common advice acknowledges the need
for choking.

You would be better served using ferrites (W2DU style BalUn/Choke),
or, if you really wish to stick with wound coax, then use a Grid Dip
Meter to test its resonance (which should reveal you can't serve both
bands). Using an antenna analyzer to do this will give you measurable
Z, and that may give you the data to see how well you are doing. You
may wind a lot of chokes to discover that the diameter is
extraordinarily huge (or so the same for turn count - one or the other
or both).

>I was not aware
>of the need for a second choke at one quarter wavelength away. Do you
>have the energy to explain why that is necessary?

[Do I have the energy.... With all the junk cluttering this space
outside of this thread, I have plenty of energy.]

The antenna fields will try to excite the transmission line's common
mode (the shield of the coax that it sees). This will induce currents
that will become radiative (just like stacked elements in a vertical
multi-element radiator - sound familiar?). The use of chokes at
quarterwave intervals snubs these currents.

Sometimes more chokes are needed. I use a 20' long line with a bead
every four inches or so. The intent is to create a very long resistor
(very wide bandwidth) with very short leads (very high frequency)
between its distributed resistance.

>How critical is the
>length between the two chokes.

Not particularly, you would be well served to attempt to make it at
the interval of quarterwave at the highest frequency used (70cm).
This, then, would snub lower frequency (2M) common mode currents.

>Do I use the middle of the two chokes
>as my measuring points?

This sounds deceptively exact (and probably a consideration for those
enormous chokes of common advice vintage). No, such exactitude is
going to be lost at the 70cm scale anyway which will be perturbed by
other factors (have I talked about environment?).

>Could I substitute a one to one current balun
>built of ferrite beads? That would have a less intrusive appearance
>and accumulate less ice in the winter.
>If you check the link that I gave for Ed Fong's dual band j-pole;
>available here
><http://f1.grp.yahoofs.com/v1/
>kL6QTZLk1DQjM_Cn3vuvnsLUIuEsvRHSqUZyX2mw294a7mYKkc
>\FBIXXlRY_6QxreqNWVpn0b7Dogiw9LafU63W429yoO/DBJ2_port_art.pdf> or just
>look it up in the files section of the Yahoo reflector;

I would prefer not to add yet one more account registration to simply
view this, sorry. However, the narrative here should tell you if we
agree.

>you will see
>that he did test it in the field with fairly sophisticated
>instrumentation. He uses a trapped radiator to obtain similar gain on
>seventy centimeters as a simple J-pole without the trap gets on two
>meters.

My background was working in the standards laboratory system of NBS
(my speciality was RF measurement to the highest accuracies). I know
that sophisticated instrumentation and quality results don't
necessarily track each other. My point was about environment, not
instrumentation anyway. You don't need $1000 meters, but you might
need $1,000,000 environment.

The description of Apple's echoless environmental chamber used to test
their iPod is a marvel of engineering, and cost a stack of dollars.

>His work was published in QST and I didn't find any
>authoritative repudiation, or even strong criticism, of his design.

The same could be said of publishing it in Playboy. QST needs content
to offer subscribers. Vanity articles satisfy that need. Think of
these articles as the introduction to a topic, not the final word.

>Why would the presence of the trap in the lower half wave of the two
>meter collinear half wave J-pole wreck the tuning on two meters.

The trap's tuning is heavily influenced by the geometry of the
elements because they are also part of the tuning. The trap disturbs
that symmetry. You have also introduced new L and C components that

further upsets the total circuit. These things are not super-critical
when you consider that moving a resonance (say) 145KHz out of 145MHz
is only a shift of 0.1%. That isn't super-critical either.

Or maybe it is.

>I'm only trying to learn here.

Let me know if this helps.

73's
Richard Clark, KB7QHC

744. Re: Fiberglass flagpole as antenna support?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 23:10:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ouafp6hul3gh3thdb5f2frrqp9dgio5oif@4ax.com>
Source record: 5395

On Sat, 2 Apr 2011 16:31:10 -0400, "Maude Herr-Chodt"
<maude@herr.chodt.org> wrote:

>The last 15 feet of each leg then makes a 90 degree bend and
>is fastened to the fence top at five feet above ground.

Hi Maude,

Cut off the last 15 feet (4M?) of each leg. Keep your antenna away
from ground - your tuner will make up the difference anyway. You are
already using a tuner, aren't you?

>The antenna in its current configuration seems to put out a good signal,
>about what one would expect for an antenna at this height. I have been
>thinking about adding a 40 foot self-supporting fiberglass pole at the
>center of the back yard fence. This would allow me to lengthen each leg by
>about 22 feet, and the two legs could be connected to an insulator mounted
>on the flagpole. In this configuration the ends of the legs would be
>elevated to an height of 40 feet. I could also remove the insulator, and by
>joining the two ends I would have a loop antenna with total length of about
>194 feet.

Do it and report back. It satisfies keeping the antenna high. You
have alternatives (short, don't short), and it adds variability for
other considerations.

73's
Richard Clark, KB7QHC

745. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 23:14:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iabfp6dmffvq7hthveep1ja7hisvosfvfn@4ax.com>
Source record: 5396

On Sat, 2 Apr 2011 17:42:49 -0500, "Richard Fry" <Invalid@Invalid.com>
wrote:

>It is interesting to note that linear form has better performance than the
>helical form.

Hi Richard,

It is also like saying that donuts are sweeter than apples. However,
I can imagine what is driving the thread that takes us into that well
charted territory.

73's
Richard Clark, KB7QHC

746. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-02 23:51:06 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <in8cph$8gj$1@dont-email.me>
Source record: 5397

On 4/2/2011 6:14 PM, Richard Clark wrote:
> On Sat, 2 Apr 2011 17:42:49 -0500, "Richard Fry"<Invalid@Invalid.com>
> wrote:
>
>> It is interesting to note that linear form has better performance than the
>> helical form.
>
> Hi Richard,
>
> It is also like saying that donuts are sweeter than apples. However,
> I can imagine what is driving the thread that takes us into that well
> charted territory.
>
> 73's
> Richard Clark, KB7QHC

Mr. Clark -

Your posts are occasionally informative, but usually not, as
demonstrated here. You have not offered anything of technical substance
in so many of your posts. It is obvious that you are knowledgeable in
the subject, but you seem to have a problem communicating that
knowledge. We could all benefit from your knowledge, but please do so
with direct technical information rather than the example above.

Please,
John

747. Re: Fiberglass flagpole as antenna support?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 00:06:49 UTC
From: Maude Herr-Chodt <maude@herr.chodt.org>
Message-ID: <4j537s.r9m.17.1@news.alt.net>
Source record: 5398

Yes, I'm using a balanced tuner. The problem with 60 feet legs is that while it matches nicely on 80 meters, on 40 meters it becomes difficult to match, given my current feeder length. Adding the additional 15 feet to each leg ends up with a reasonably easy match on all bands (80 - 10 meters). In addition, I feed the antenna as a Marconi (inverted L configuration) on 160 meters, and the additional 15 feet on each leg again makes it easier to match.

"Richard Clark" wrote in message
news:ouafp6hul3gh3thdb5f2frrqp9dgio5oif@4ax.com...

On Sat, 2 Apr 2011 16:31:10 -0400, "Maude Herr-Chodt"
<maude@herr.chodt.org> wrote:

>The last 15 feet of each leg then makes a 90 degree bend and
>is fastened to the fence top at five feet above ground.

Hi Maude,

Cut off the last 15 feet (4M?) of each leg. Keep your antenna away
from ground - your tuner will make up the difference anyway. You are
already using a tuner, aren't you?

>The antenna in its current configuration seems to put out a good signal,
>about what one would expect for an antenna at this height. I have been
>thinking about adding a 40 foot self-supporting fiberglass pole at the
>center of the back yard fence. This would allow me to lengthen each leg by
>about 22 feet, and the two legs could be connected to an insulator mounted
>on the flagpole. In this configuration the ends of the legs would be
>elevated to an height of 40 feet. I could also remove the insulator, and by
>joining the two ends I would have a loop antenna with total length of about
>194 feet.

Do it and report back. It satisfies keeping the antenna high. You
have alternatives (short, don't short), and it adds variability for
other considerations.

73's
Richard Clark, KB7QHC

748. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 00:33:18 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <66535055-4f59-4a8a-84cb-b7a4bc02c65a@m13g2000yqb.googlegroups.com>
Source record: 5399

On 3 abr, 00:42, "Richard Fry" <Inva...@Invalid.com> wrote:
> Followup -- the link below compares the relative current distribution,
> directivity and radiation efficiency of a helical and a linear radiator
> system when the helical radiator described in my earlier post is operating
> at the frequency of its first self-resonance, and the linear monopole height
> is set for its first self-resonance at that same frequency.
>
> It is interesting to note that linear form has better performance than the
> helical form.
>
> http://i62.photobucket.com/albums/h85/rfry-100/Helix__Linear_1st_Reso...

Hello Richard Fry,

Why is this so interesting, as it is what I expect (and I think you expect this also)? The current*(physical length) product is more, so given same feed current it produces more field (hence more radiated power). This results in higher input impedance, hence reducing the 10 ohms ground loss.

The small change in shape of pattern is just due to the less isotropic array pattern of the 0.25 lambda radiator (w.r.t. to the array pattern of the 3 m radiator).

If it is not time consuming, I would like to see what happens when you extend the helix until it gets its second (half wave) high impedance resonance (current maximum in the middle). I expect some gain increase due to small change in antenna pattern and reduced ground loss.

¡Very informative thread!

73, Wim, PA3DJS, www.tetech.nl.

749. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 02:01:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c6kfp6p8ofnomkbdm9vtep7ldnoa2ct06b@4ax.com>
Source record: 5400

On Sat, 02 Apr 2011 18:51:06 -0500, John - KD5YI <sophi.2@invalid.org>
wrote:

>Your posts are occasionally informative, but usually not, as
>demonstrated here. You have not offered anything of technical substance
>in so many of your posts. It is obvious that you are knowledgeable in
>the subject, but you seem to have a problem communicating that
>knowledge. We could all benefit from your knowledge, but please do so
>with direct technical information rather than the example above.

Hi John,

Technical chaff is rarely useful information. I am pretty sure that
was the point (but it is a rather Baroque discussion) Richard was
trying to illustrate.

Simple observation will reveal how this thread has become about trying
to get the camel through the eye of the needle: Richard's link points
to data that reveals differences displayable (and arguably
measureable) only out to 10% - that is pretty meager steam for heated
rhetoric in this engine of discussion (it has been far more about
purple prose than substance before I dipped my oar here).

73's
Richard Clark, KB7QHC

750. most beautiful celebrities

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 05:01:53 UTC
From: sam <ramchrao12@gmail.com>
Message-ID: <0cd41c7b-1b44-4620-973c-f50cc46a82b1@j13g2000pro.googlegroups.com>
Source record: 5251

www.4ursingle.com

751. 67 TOTAL HOT VIDEOS AND SEXY PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 09:23:58 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <57506872-8f16-4751-b2de-35b86f3858ae@i39g2000prd.googlegroups.com>
Source record: 5252

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

HOT VIDEOS

massage hot videos
http://hotvideosonlyx.blogspot.com/2010/09/massage-hot-videos.html
romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
hollywood hot
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot.html
bollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/bollywood-hot-kiss.html
bollywood hot videos
http://hotvideosonlyx.blogspot.com/2010/09/bollywood-hot-videos.html
tollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/tollywood-hot-kiss.html

for more hot videos

http://videosonblog.blogspot.com/2010/11/masala-videos.html

ALL INTERVIEW QUESTIONS

java interview questions
http://allinterviewsquestions.blogspot.com/2009/02/java-interview-questions.html
oracle interview questions
http://allinterviewsquestions.blogspot.com/2009/02/oracle-interview-questions.html
hardware interview questions 4
http://allinterviewsquestions.blogspot.com/2009/02/hardware-interview-questions.html
SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html

dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

752. Re: Helix / helical polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 09:56:00 UTC
From: Dave <me@me.com>
Message-ID: <in9g7iipp1@speranza.aioe.org>
Source record: 5253

"Dave" <me@me.com> wrote in message news:imst5hvit1@speranza.aioe.org...
> Simple Question helix polarization - two stations, does one have to be
> LHCP and the other RHCP ? to keep the same 'thread' pattern if you see
> what I mean !

Thanks guys !! I knew it was confusing, so the upshot of it all is the same
polarization both ends, with some caveats - great

753. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 12:03:42 UTC
From: k1ttt@pstn2.net
Message-ID: <0e3dcf2e-b373-42c9-9dfa-660eb8a4f0ff@d19g2000yql.googlegroups.com>
Source record: 5254

```
On Apr 2, 4:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>  <k1...@pstn2.net> napisal w
wiadomoscinews:a3184837-4047-4f93-ba24-5ceec1ede1e0@w21g2000yqm.googlegroups.com...
> On Apr 2, 7:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "Jim Lux" <james.p....@jpl.nasa.gov> napisal w
> > wiadomoscinews:in5kti$6m2$1@news.jpl.nasa.gov...
>
> > > Szczepan Bialek wrote:
>
> > >> "The Earth is constantly immersed in the solar wind, a rarefied flow of
> > >> hot plasma (gas of free electrons and positive ions) emitted by the Sun
> > >> in all directions, a result of the two-million-degree heat of the Sun's
> > >> outermost layer, the corona. The solar wind usually reaches Earth with
> > >> a
> > >> velocity around 400 km/s, density around 5 ions/cm3 and magnetic field
> > >> intensity around 2-5 nT (nanoteslas; Earth's surface field is typically
> > >> 30,000-50,000 nT). These are typical values. During magnetic storms, in
> > >> particular, flows can be several times faster; the interplanetary
> > >> magnetic field (IMF) may also be much stronger."
>
> > > Sure... the number density of ionized particles is somewhat bigger than
> > > the 5/cc you describe above, so solar wind is actually not a big
> > > contributor to it. Most of the ionization comes from UV ionizing the air
> > > atoms/molecules. (that's what the whole daytime sky wave off the F layer
> > > is all about, after all.. working Australia from the California on 20
> > > meters at 5AM CA time probably isn't a good bet)
>
> > In space is also the dust. The ionized particles can come from them also.
> > The Moon is a big dust.
>
> > >>> The aurora is NOT caused by acoustic waves.
>
> > >> " In the explosive event that a coronal mass ejection (CME) is reported
> > >> it's time to hop into action because this super-charged solar wind is
> > >> traveling fast (maybe 3-to-5 million miles per hour). When this energy
> > >> sweeps by the earth 1-to-3 nights later there is a very good chance of
> > >> aurora activity". From:  http://aurorahunter.com/aurora-prediction.php
>
> > > That's not acoustic. That's just particles streaming out into space, and
> > > because there's not many other particles to bump into, most of them get
> > > to
```

> > > Earth
>
> > Cars produce the hot wind (exhaust pipe) with the acoustic waves. Is
> > possible to produce only streaming?
> > There must be the oscillatory flow.
> > S*
>
> <you produce hot wind also...
>
> But also with nois.
>
> < you should learn to listen and get into this century. no, the solar wind
> is not oscillatory,
>
> Yes. But if no the sunspost (explosions).
>
> <it flows from the sun all the way past pluto. it also varies in speed
> quite a bit
> so if the light was being propagated by the particles in the solar
> wind we would see large changes in the velocity and intensity coming
> from the sun that would be very easy to measure
>
> Good idea. Have you a procedure for such measurements. But the changes are
> rather small.
>
> <, and would likely have killed off all life long ago.
>
> The changes makes auroras only.
> S*

no, the changes don't always make aurora, and they are definately NOT
small. watch the speed on this for a few months, even without aurora
and see how much it changes. if the waves were traveling on the
charged particles then they would change speed just as much:
http://www.swpc.noaa.gov/ace/MAG_SWEPAM_24h.html

754. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 12:09:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4694b55a-e993-42d1-b68c-f48c68b7a60d@ed10g2000vbb.googlegroups.com>
Source record: 5255

On Apr 2, 7:33 pm, Wimpie <wimabc...@tetech.nl> wrote:
> I would like to see what happens when you
> extend the helix until it gets its second (half wave) high impedance
> resonance (current maximum in the middle).

Also at its third (3/4WL) low impedance resonance where there are two
current maximum points on the helix.
--
73, Cecil, w5dxp.com

755. Re: Fiberglass flagpole as antenna support?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 12:27:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <50b0fbe4-cc04-4a51-b0d6-1fca53cdb2d6@k7g2000yqj.googlegroups.com>
Source record: 5256

On Apr 2, 7:06 pm, "Maude Herr-Chodt" <ma...@herr.chodt.org> wrote:
> The problem with 60 feet legs is that while
> it matches nicely on 80 meters, on 40 meters it becomes difficult to match,
> given my current feeder length.

Assuming ladder-line feeding 60 foot legs, switch between a 1/2WL
feeder on 80m and a 3/4WL feeder on 40m and get a near-perfect match
on both bands.
--
73, Cecil, w5dxp.com

756. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 14:19:34 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <v5vgp6dgq1g4dr4u2kb6l2u0vdakkc1rsv@4ax.com>
Source record: 5257

On Sat, 02 Apr 2011 16:04:27 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Sat, 2 Apr 2011 12:06:16 -0700 (PDT), Tom Horne <hornetd@gmail.com>
>wrote:
>
>>Richard
>>I didn't ignore choking the feed line but I will readily confess that
>>I did not choke it twice. Starting immediately below the bottom of
>>the matching stub I followed the recommendation of the various authors
>>and wound a multi-turn coax balun with a six inch diameter coils of
>>coax. They call for ten turns if I recall correctly.
>
>Hi Tom,
>
>This sound like very common advice - so common that it begs
>investigation because it is common advice for HF Choking, not 2M, and
>certainly not 70cm. However, this common advice acknowledges the need
>for choking.
>
>You would be better served using ferrites (W2DU style BalUn/Choke),
>or, if you really wish to stick with wound coax, then use a Grid Dip
>Meter to test its resonance (which should reveal you can't serve both
>bands). Using an antenna analyzer to do this will give you measurable
>Z, and that may give you the data to see how well you are doing. You
>may wind a lot of chokes to discover that the diameter is
>extraordinarily huge (or so the same for turn count - one or the other
>or both).
>
This thread has shown me that I don't know enough about Common Mode
Chokes. I think they might also be referred to as transmission line
chokes.

What I need to know is
1- When to use them. RF in the Shack is pretty obvious
2- When not to use them. There must be some negatives.
3- "Compare and Contrast" the Inductor-capacitor choke with the
Ferrite Choke(W2DU). Are they electrically equivalent?
4- Are either of them a multi band solution?
5- Are there Upper and lower frequency limitations for using them.

As usual, a Google search provides an overwhelming set of responses
that most likely will cover the subject in greater detail than I can
digest.

Early in the list provided by the search I discovered
http://www.audiosystemsgroup.com/RFI-Ham.pdf

That may have all the answers but I have only glanced at the beginning
of the 66 page document.

John Ferrell W8CCW

757. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 16:26:12 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d989fac$0$2452$65785112@news.neostrada.pl>
Source record: 5258

<k1ttt@pstn2.net> napisal w wiadomosci
news:0e3dcf2e-b373-42c9-9dfa-660eb8a4f0ff@d19g2000yql.googlegroups.com...
On Apr 2, 4:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> The changes makes auroras only.
> S*

>no, the changes don't always make aurora, and they are definately NOT
small. watch the speed on this for a few months, even without aurora
and see how much it changes. if the waves were traveling on the
charged particles then they would change speed just as much:
http://www.swpc.noaa.gov/ace/MAG_SWEPAM_24h.html

"A large solar flare jettisoned from the sun, striking the Earth four days
later"

Read more: Effects of Solar Wind | eHow.com
http://www.ehow.com/about_5124161_effects-solar-wind.html#ixzz1ITcThhIf

150 000 000km / 4days = 150 000 000 / 350 000s = 430 km/s.

For you it is the speed of the solar wind.
For me it is the speed of acoustic waves.

According to Faraday and today scientist the plasma is like metal.
Ions are the medium for acoustic waves and electrons for the electric (in
metals and in plasma).

Have you a link with the method for measure the speed of solar wind?

S*

758. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 16:37:56 UTC
From: k1ttt@pstn2.net
Message-ID: <3c2d48d8-c57c-4e2b-b375-512fe5758da2@d28g2000yqc.googlegroups.com>
Source record: 5259

On Apr 3, 4:26 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> <k1...@pstn2.net> napisal w
wiadomoscinews:0e3dcf2e-b373-42c9-9dfa-660eb8a4f0ff@d19g2000yql.googlegroups.com...
> On Apr 2, 4:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> The changes makes auroras only.
> > S*
> >no, the changes don't always make aurora, and they are definately NOT
>
> small. watch the speed on this for a few months, even without aurora
> and see how much it changes. if the waves were traveling on the
> charged particles then they would change speed just as
much:http://www.swpc.noaa.gov/ace/MAG_SWEPAM_24h.html
>
> "A large solar flare jettisoned from the sun, striking the Earth four days
> later"
>
> Read more: Effects of Solar Wind |
eHow.comhttp://www.ehow.com/about_5124161_effects-solar-wind.html#ixzz1ITcThhIf
>
> 150 000 000km / 4days = 150 000 000 / 350 000s = 430 km/s.
>
> For you it is the speed of the solar wind.
> For me it is the speed of acoustic waves.
>
> According to Faraday and today scientist the plasma is like metal.
> Ions are the medium for acoustic waves and electrons for the electric (in
> metals and in plasma).
>
> Have you a link with the method for measure the speed of solar wind?
>
> S*

go to that link i gave you above, the 'normal' speed of the solar wind
like now is over 500km/s, it gets much faster when there is a coronal
hole or from a cme.

759. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 16:43:27 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <6e10f67a-f16c-4169-b98c-e005e3798e09@x3g2000yqj.googlegroups.com>
Source record: 5260

On Apr 2, 7:04 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 2 Apr 2011 12:06:16 -0700 (PDT), Tom Horne <horn...@gmail.com>
> wrote:
>
> >Richard
> >I didn't ignore choking the feed line but I will readily confess that
> >I did not choke it twice. Starting immediately below the bottom of
> >the matching stub I followed the recommendation of the various authors
> >and wound a multi-turn coax balun with a six inch diameter coils of
> >coax. They call for ten turns if I recall correctly.
>
> Hi Tom,
>
> This sound like very common advice - so common that it begs
> investigation because it is common advice for HF Choking, not 2M, and
> certainly not 70cm. However, this common advice acknowledges the need
> for choking.
>
> You would be better served using ferrites (W2DU style BalUn/Choke),
> or, if you really wish to stick with wound coax, then use a Grid Dip
> Meter to test its resonance (which should reveal you can't serve both
> bands). Using an antenna analyzer to do this will give you measurable
> Z, and that may give you the data to see how well you are doing. You
> may wind a lot of chokes to discover that the diameter is
> extraordinarily huge (or so the same for turn count - one or the other
> or both).
>
> >I was not aware
> >of the need for a second choke at one quarter wavelength away. Do you
> >have the energy to explain why that is necessary?
>
> [Do I have the energy.... With all the junk cluttering this space
> outside of this thread, I have plenty of energy.]
>
> The antenna fields will try to excite the transmission line's common
> mode (the shield of the coax that it sees). This will induce currents
> that will become radiative (just like stacked elements in a vertical
> multi-element radiator - sound familiar?). The use of chokes at
> quarterwave intervals snubs these currents.
>
> Sometimes more chokes are needed. I use a 20' long line with a bead
> every four inches or so. The intent is to create a very long resistor
> (very wide bandwidth) with very short leads (very high frequency)
> between its distributed resistance.

>
> >How critical is the
> >length between the two chokes.
>
> Not particularly, you would be well served to attempt to make it at
> the interval of quarterwave at the highest frequency used (70cm).
> This, then, would snub lower frequency (2M) common mode currents.
>
> >Do I use the middle of the two chokes
> >as my measuring points?
>
> This sounds deceptively exact (and probably a consideration for those
> enormous chokes of common advice vintage). No, such exactitude is
> going to be lost at the 70cm scale anyway which will be perturbed by
> other factors (have I talked about environment?).
>
> >Could I substitute a one to one current balun
> >built of ferrite beads? That would have a less intrusive appearance
> >and accumulate less ice in the winter.
> >If you check the link that I gave for Ed Fong's dual band j-pole;
> >available here
> ><http://f1.grp.yahoofs.com/v1/
> >kL6QTZLk1DQjM_Cn3vuvnsLUIuEsvRHSqUZyX2mw294a7mYKkc
> >\FBIXXlRY_6QxreqNWVpn0b7Dogiw9LafU63W429yoO/DBJ2_port_art.pdf> or just
> >look it up in the files section of the Yahoo reflector;
>
> I would prefer not to add yet one more account registration to simply
> view this, sorry. However, the narrative here should tell you if we
> agree.
>
> >you will see
> >that he did test it in the field with fairly sophisticated
> >instrumentation. He uses a trapped radiator to obtain similar gain on
> >seventy centimeters as a simple J-pole without the trap gets on two
> >meters.
>
> My background was working in the standards laboratory system of NBS
> (my speciality was RF measurement to the highest accuracies). I know
> that sophisticated instrumentation and quality results don't
> necessarily track each other. My point was about environment, not
> instrumentation anyway. You don't need $1000 meters, but you might
> need $1,000,000 environment.
>
> The description of Apple's echoless environmental chamber used to test
> their iPod is a marvel of engineering, and cost a stack of dollars.
>
> >His work was published in QST and I didn't find any
> >authoritative repudiation, or even strong criticism, of his design.
>
> The same could be said of publishing it in Playboy. QST needs content

> to offer subscribers. Vanity articles satisfy that need. Think of
> these articles as the introduction to a topic, not the final word.
>
> >Why would the presence of the trap in the lower half wave of the two
> >meter collinear half wave J-pole wreck the tuning on two meters.
>
> The trap's tuning is heavily influenced by the geometry of the
> elements because they are also part of the tuning. The trap disturbs
> that symmetry. You have also introduced new L and C components that
> further upsets the total circuit. These things are not super-critical
> when you consider that moving a resonance (say) 145KHz out of 145MHz
> is only a shift of 0.1%. That isn't super-critical either.
>
> Or maybe it is.
>
> >I'm only trying to learn here.
>
> Let me know if this helps.
>
> 73's
> Richard Clark, KB7QHC

Richard
Ed Fong's article can be found on the ARRL website at
<http://www.arrl.org/files/file/Technology/tis/info/pdf/
0302038.pdf>.
I was able to access the above link without any password or other
challenge. I just reread it and found that he does address the
changes in the two meter element brought on by the inclusion of the
seventy centimeter trap. For one thing it shortens the two meter
element somewhat. So let me propose a modification process for my
collinear dual half wave two meter j-pole and you can tell me if you
can think of ways to rearrange or modify the steps so as to move
towards by hoped for results. What I hope to achieve is to maintain
the gain of the stacked, out of phase, dual half wave antenna on two
meters AND trap the lower have wave to a single half wave on seventy
centimeters.

Here are the steps I was thinking of:
Fabricate a trap from 1/2" copper pipe coming out of a tee that has
been cut in half through a plane perpendicular to the foot of the
tee.
Remove the top half wave and the phasing loop from the existing
collinear dual half wave antenna
Attach the stub to the lower half wave so that the open bottom end of
the stub is one half wave on UHF from the top of the matching stub.
Measure the SWR on 446 MHz. of the newly trapped two meter radiator.
Adjust stub location for minimum SWR at 446 MHz.
Measure SWR at 146 MHz.
Shorten that radiator to lowest SWR on two meters or until the two SWR
readings for VHF & UHF are equal.

Reattach the upper two meter half wave and phasing stub.
Measure antenna for SWR on both VHF & UHF again
Adjust length of of upper two meter half wave if necessary.

The antenna analyzer that I will use will be an AEA Technology SWR Meter: 140-525. It happens to be what I have available to me.

Does my process seem to be along the right line or would you suggest a different order of operations?

--
Tom Horne, W3TDH

760. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 17:40:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tm9hp6h0u0lkpobhljc3pkf4er2cmai4tf@4ax.com>
Source record: 5261

On Sun, 03 Apr 2011 10:19:34 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

> What I need to know is
>1- When to use them. RF in the Shack is pretty obvious

Hi John,

Sometimes it is not always that obvious, but it can be made obvious. I say this because the symptoms do not always draw our attention to the problem arising from Common Mode (CM) current.

One possible obvious symptom is that you can feel the current on the shielded components of your system - like a microphone shell when your lip brushes along it (which can sometimes give a nasty shock); or when you pull a connector and get that tingle of feeling (which might kill you if conditions were worse). "Obvious" can vary from subtle to deadly.

Another possible obvious symptom is you are moving a transmission line while keyed down, and you notice your SWR shifts at the same time. Is it because of a faulty connection? Sometimes yes, but we are talking about CM; and when it is CM, then that shift in SWR is because a tuned circuit (the line is now part of a dynamic system) has been changed.

* * * * * * * * *

Let's set aside in-the-shack symptoms and look at the antenna end of what might be obvious.

For beam antennas, through careful testing with known remote stations (beacons, for instance) you find that you have high sidelobes, almost no back rejection, and a broad response off the front. The transmission line coming down is acting like a vertical antenna, and is feeding its drive into the antenna feed point (two antennas in parallel). That extra antenna is picking up stations that would normally be suppressed by beam design.

Some folks never notice this - and it shows how benign CM can be (it is there full blown, but it is NOT obvious at all).

For wire antennas, you cut and cut and trim and trim your antenna to frequency, but even though it is book perfect (using the usual formulas for length), it is wildly out of whack and a bitch to tune with your tuner. Your dipole without choking is actually a tripole: two horizontal elements with a third vertical element (which is variable in length and relationship to ground/environment as it swings

in the wind). You raise it higher to see if that does anything, and the tune shifts to the moon because the third element has gotten longer.

Again, some people never notice this, we have seen them; others do notice it and fulminate against the dipole as being a useless invention where their endfire (which suffers the same issues, but is magical by comparison) antenna is the cat's meow.

More could be said....

>2- When not to use them. There must be some negatives.

That is a natural question, but I cannot think of any down-side at all.

>3- "Compare and Contrast" the Inductor-capacitor choke with the
>Ferrite Choke(W2DU). Are they electrically equivalent?

They are NOT electrically equivalent. The ARE functionally equivalent - that is, they both suit the same purpose of introducing a very hi Z into the current path of CM.

The coil of transmission line is, on first pass approximation, an inductor whose Z climbs with applied frequency. The presumption is that it can only get better for the higher bands. This works to a point, but the same coil of TL also has loop-to-loop capacitance, and end-to-end capacitance. These two capacitances, at some frequency, become resonant and offer you a tank circuit. This works even better to isolate the current at the drive point from the rest of the line. However, a tank is not a wide band device by definition. It can exhibit an extremely hi Z at one frequency, and often high enough Z in neighboring bands (hence it is useful if you understand this). As you go higher in frequency, and for the very large coils suggested earlier, then the capacitances begin to dominate and actually kill any sense of choking.

The ferrite choke is a resistor, plain and simple. This means it is wide-banded - although its frequency characteristic is not universally applicable (this widebandedness usefully covers two, maybe three octaves). The formulation of the ferrite determines the coverage, and so you can either throw more beads into the mix, or use beads of different formulations to create a more flattened frequency response (over decades of frequency change).

>4- Are either of them a multi band solution?

Yes, as described above.

>5- Are there Upper and lower frequency limitations for using them.

That too is described above.

>As usual, a Google search provides an overwhelming set of responses
>that most likely will cover the subject in greater detail than I can
>digest.
>
>Early in the list provided by the search I discovered
>http://www.audiosystemsgroup.com/RFI-Ham.pdf
>
>That may have all the answers but I have only glanced at the beginning
>of the 66 page document.

It is a very good and broad discussion. The downside is its enormity.
However, this is not a simple topic and understanding comes slow.

The reason for that is that Common Mode analysis as distinct from
Differential Mode analysis immediately brings up the specter of WTF?
There are TWO currents flowing at the same time in the same circuit?

This perspective is usually very foreign and takes deep meditation to
come to grips with. It is difficult for the majority of the Pros too.

I am going to prompt readers for the next question:
"What is common mode current?"
If any one cares to indulge me by asking, we can go further, but the
material in this posting is enough to digest in one sitting.

73's
Richard Clark, KB7QHC

761. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 18:15:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ddchp6hamssvtlg1cu2cq9sdslr0hapctc@4ax.com>
Source record: 5262

On Sun, 3 Apr 2011 09:43:27 -0700 (PDT), Tom Horne <hornetd@gmail.com>
wrote:

> What I hope to achieve is to maintain
>the gain of the stacked, out of phase, dual half wave antenna on two
>meters AND trap the lower have wave to a single half wave on seventy
>centimeters.

Hi Tom,

Right off the bat (yes I can see the article now) you offer a
conflict. Out of phase blurs gain (lowers it). Your statement
suggests you are losing from the start.

However, it could simply be wording. Let's make this simple:
1. State the gain at the frequencies of interest before the change;
2. State the gain at those frequencies you expect after the change.

>Here are the steps I was thinking of:
>Fabricate a trap from 1/2" copper pipe coming out of a tee that has
>been cut in half through a plane perpendicular to the foot of the
>tee.

Lost already - sorry.

>Remove the top half wave and the phasing loop from the existing
>collinear dual half wave antenna
>Attach the stub to the lower half wave so that the open bottom end of
>the stub is one half wave on UHF from the top of the matching stub.
1>Measure the SWR on 446 MHz. of the newly trapped two meter radiator.
2>Adjust stub location for minimum SWR at 446 MHz.
3>Measure SWR at 146 MHz.
4>Shorten that radiator to lowest SWR on two meters or until the two
SWR
>readings for VHF & UHF are equal.

Probably not. You are going to be repeating steps 1-4 to even
approach this desired end condition.

5>Reattach the upper two meter half wave and phasing stub.
6>Measure antenna for SWR on both VHF & UHF again
7>Adjust length of of upper two meter half wave if necessary.

This will disturb the work done in steps 1-4. You cannot rely on that
configuration being isolated from the work in steps 5-7 which will
also demand repeated attention. However, proceed with 5-7 repeats
until you obtain the desired end condition.

NOW, revisit steps 1-4 with everything attached. I may be wrong, but I suspect you will need to trim things here again. And guess what? This means you need to visit and repeat steps 5-7 again.

And guess what? You will be visiting steps 1-4 AND 5-7 again, and again.

Take heart, these revisits "should" result in ever smaller adjustments. That means you will approach your desired end condition asymptotically.

>The antenna analyzer that I will use will be an AEA Technology SWR
>Meter: 140-525. It happens to be what I have available to me.
>
>Does my process seem to be along the right line or would you suggest a
>different order of operations?

The order is quite rational and fully expected. You are entirely on the right track. Your experience will reveal how much they are interactive and how sensitive all this is. If you anticipate the amount of repeated operations and plan accordingly, it will go far more quickly.

Epilogue

I would note that your writer does not offer any testing of sufficient caliber to support the claims of the EZNEC model. He merely provides signal reports using a sophisticated instrument (a spectrum analyzer that is not being used for spectrum analysis). Those reports also tell me that there is at best 1.2dB gain over a 1/4 wave design - very underwhelming. The only SWR data is reported as "The SWR was low."

73's
Richard Clark, KB7QHC

762. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 19:11:37 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <inagpa$if0$1@dont-email.me>
Source record: 5263

"Wimpie" wrote
>If it is not time consuming, I would like to see what happens when you
>extend the helix until it gets its second (half wave) high impedance
>resonance (current maximum in the middle). I expect some gain increase
>due to small change in antenna pattern and reduced ground loss.

The NEC software that I used for the results shown earlier doesn't allow enough segments to double the length of that helix. So I reconstructed the model in one that does -- link to screen clip from it below:

http://i62.photobucket.com/albums/h85/rfry-100/HelicalMonopole_6m.gif

763. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-03 20:42:46 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <511493ce-b878-443c-a83c-c61885232b70@e21g2000yqe.googlegroups.com>
Source record: 5264

On 3 abr, 21:11, "Richard Fry" <Inva...@Invalid.com> wrote:
> "Wimpie" wrote
>
> >If it is not time consuming, I would like to see what happens when you
> >extend the helix until it gets its second (half wave) high impedance
> >resonance (current maximum in the middle). I expect some gain increase
> >due to small change in antenna pattern and reduced ground loss.
>
> The NEC software that I used for the results shown earlier doesn't allow
> enough segments to double the length of that helix. So I reconstructed the
> model in one that does -- link to screen clip from it below:
>
> http://i62.photobucket.com/albums/h85/rfry-100/HelicalMonopole_6m.gif

Hello Richard Fry,

Thanks for taking the time to do the simulation.

It seems from your graph that the electrically half wave (180 degr)
helical has slightly more gain than the physically and electrically
quarter wave (90 degr) radiator (5.61 dBi for the helical versus 5.14
dBi for the quarter wave whip).

Given the about 4 kOhms for 1/(Re(Y)), the loss in the 10 Ohms ground
resistance is negligible (so at can be significantly higher before
presenting significant loss). 900Vp at the feed point (100W input)
will not give problems with matching.

With kind regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely

764. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-04 02:48:24 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <inbbhm$ms4u$1@tr22n12.aset.psu.edu>
Source record: 5265

On 4/2/2011 6:51 PM, John - KD5YI wrote:

> Your posts are occasionally informative, but usually not, as
> demonstrated here. You have not offered anything of technical substance
> in so many of your posts. It is obvious that you are knowledgeable in
> the subject, but you seem to have a problem communicating that
> knowledge. We could all benefit from your knowledge, but please do so
> with direct technical information rather than the example above.

What fun would that be? We should cast away our aspergian proclivities and embrace the occasional foray into acerbic wit.

Which is to say that Yes Richard knows something, and sometimes he'll make an amusing comparison. If you ask, I'm certain he'll explain a subject he's commented on if you ask.

And there is something in the donuts versus apples comparison.

The only one we're not allowed to use is apples and oranges.

- 73 de Mike N3LI -

765. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-04 11:39:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a4ac7027-4018-45ff-ac6f-8f4a833c612b@k22g2000yqh.googlegroups.com>
Source record: 5266

On Apr 3, 3:42 pm, Wimpie <wimabc...@tetech.nl> wrote:
> It seems from your graph that the electrically half wave (180 degr)
> helical has slightly more gain than the physically and electrically
> quarter wave (90 degr) radiator (5.61 dBi for the helical versus 5.14
> dBi for the quarter wave whip).

A full-length half-wave monopole has gain over a full-length 1/4WL
monopole because the current maximum point on the half-wave is
elevated by 1/4WL. The same concept has to be a technical fact for the
helical even though muted by the smaller physical distance between the
current maximum points.
--
73, Cecil, w5dxp.com

766. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-04 16:21:08 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <incr59$4de$1@news.jpl.nasa.gov>
Source record: 5268

John Ferrell wrote:
> On Sat, 02 Apr 2011 16:04:27 -0700, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>> On Sat, 2 Apr 2011 12:06:16 -0700 (PDT), Tom Horne <hornetd@gmail.com>
>> wrote:
>>
>>> Richard
>>> I didn't ignore choking the feed line but I will readily confess that
>>> I did not choke it twice. Starting immediately below the bottom of
>>> the matching stub I followed the recommendation of the various authors
>>> and wound a multi-turn coax balun with a six inch diameter coils of
>>> coax. They call for ten turns if I recall correctly.
>> Hi Tom,
>>
>> This sound like very common advice - so common that it begs
>> investigation because it is common advice for HF Choking, not 2M, and
>> certainly not 70cm. However, this common advice acknowledges the need
>> for choking.
>>
>> You would be better served using ferrites (W2DU style BalUn/Choke),
>> or, if you really wish to stick with wound coax, then use a Grid Dip
>> Meter to test its resonance (which should reveal you can't serve both
>> bands). Using an antenna analyzer to do this will give you measurable
>> Z, and that may give you the data to see how well you are doing. You
>> may wind a lot of chokes to discover that the diameter is
>> extraordinarily huge (or so the same for turn count - one or the other
>> or both).
>>
> This thread has shown me that I don't know enough about Common Mode
> Chokes. I think they might also be referred to as transmission line
> chokes.
>
> What I need to know is
> 1- When to use them. RF in the Shack is pretty obvious
> 2- When not to use them. There must be some negatives.
> 3- "Compare and Contrast" the Inductor-capacitor choke with the
> Ferrite Choke(W2DU). Are they electrically equivalent?
> 4- Are either of them a multi band solution?
> 5- Are there Upper and lower frequency limitations for using them.
>
>
> As usual, a Google search provides an overwhelming set of responses
> that most likely will cover the subject in greater detail than I can

> digest.
>
> Early in the list provided by the search I discovered
> http://www.audiosystemsgroup.com/RFI-Ham.pdf
>
> That may have all the answers but I have only glanced at the beginning
> of the 66 page document.

That document certainly has a LOT of the answers... and good practical
data to use, as well.

767. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-04 16:30:44 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d99f237$1$2455$65785112@news.neostrada.pl>
Source record: 5267

<k1ttt@pstn2.net> napisal w wiadomosci
news:3c2d48d8-c57c-4e2b-b375-512fe5758da2@d28g2000yqc.googlegroups.com...
On Apr 3, 4:26 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
> For you it is the speed of the solar wind.
> For me it is the speed of acoustic waves.
>
> According to Faraday and today scientist the plasma is like metal.
> Ions are the medium for acoustic waves and electrons for the electric (in
> metals and in plasma).
>
> Have you a link with the method for measure the speed of solar wind?
>
> S*

<go to that link i gave you above, the 'normal' speed of the solar wind
like now is over 500km/s, it gets much faster when there is a coronal
hole or from a cme.

"Mysterious waves that help transport the sun's energy out into space have
been detected by scientists for the first time."
From: http://www.space.com/4279-mysterious-solar-ripples-detected.html

All real waves transport mass and energy. All medium vibrate. Electrons
waves are in all media and ions/molecules must be also. The ions waves are
not mystery. Their existence is obvious.
Is it?
S*

768. Re: Helical-wound Monopoles

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-04 16:32:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <incrqv$4iv$1@news.jpl.nasa.gov>
Source record: 5269

Richard Fry wrote:
> Followup -- the link below compares the relative current distribution,
> directivity and radiation efficiency of a helical and a linear radiator
> system when the helical radiator described in my earlier post is
> operating at the frequency of its first self-resonance, and the linear
> monopole height is set for its first self-resonance at that same frequency.
>
> It is interesting to note that linear form has better performance than
> the helical form.
>
> http://i62.photobucket.com/albums/h85/rfry-100/Helix__Linear_1st_Resonance.gif
>

One antenna is physically larger, though, right: 5.535m vs 3m?

How is radiation efficiency calculated here? Integral over hemisphere of radiated power vs applied power Seems like that would be 12.17/(10+12.17) vs 36/(10+36), so you're really just seeing a manifestation of the different feedpoint impedance vs ground losses (which you've assumed fixed..)

I'm not sure the assumption of fixed ground losses is reasonable here. (Actually, now that I think about it, it might actually be worse for the shorter element, in real life)

The other thing is that the shorter radiator is going to have a "lower directivity" pattern vs the longer. That is, a shorter one will tend towards the "Hertzian infinitestimal dipole" with 1.6dBi while the longer will be closer to the 2.15dBi.

769. Make Money Easy At Home

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-04 17:05:46 UTC
From: love <vaiovickyking@gmail.com>
Message-ID: <80a7dc69-bd51-4beb-9472-772d9f6721ca@j11g2000prn.googlegroups.com>
Source record: 5270

Earn 5$ to 50$ per day for easy and simple...
for more details visit our website...

PROJECT DESCRIPTION - Email id Collecting,phone
numbers,address,and.

Verify The Correct Email id,Address,Phone Numbers From The Search
Engine And Paste
On
The Given Server

EARNINGS - $0.1 to $5 per
Assignment
If u
Work 2 to 3 hours - 200 Assignment
If u
Work 8 hours -500 Assignment
Based
on Your Working Potential.

PAYMENT - Minimum Payout $10
you can withdraw your earnings at anytime.
You
will be charge $4 for processing fee for the cheque.
Eg:-
If you
withdraw 10$ you will be get 6$.
If you
withdraw 100$ you will be get 96$.
If you
withdraw 24$ you will be get 20$.
http://makemoneyeasyathome.weebly.com/

770. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-04 18:16:28 UTC
From: k1ttt@pstn2.net
Message-ID: <f5868ad1-5959-43e9-9727-f72b89fb0eb2@hg8g2000vbb.googlegroups.com>
Source record: 5271

On Apr 4, 4:30 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> <k1...@pstn2.net> napisal w
wiadomoscinews:3c2d48d8-c57c-4e2b-b375-512fe5758da2@d28g2000yqc.googlegroups.com...
> On Apr 3, 4:26 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > For you it is the speed of the solar wind.
> > For me it is the speed of acoustic waves.
>
> > According to Faraday and today scientist the plasma is like metal.
> > Ions are the medium for acoustic waves and electrons for the electric (in
> > metals and in plasma).
>
> > Have you a link with the method for measure the speed of solar wind?
>
> > S*
>
> <go to that link i gave you above, the 'normal' speed of the solar wind
> like now is over 500km/s, it gets much faster when there is a coronal
> hole or from a cme.
>
> "Mysterious waves that help transport the sun's energy out into space have
> been detected by scientists for the first time."
> From:http://www.space.com/4279-mysterious-solar-ripples-detected.html

those waves have nothing to do with electromagnetic waves.

>
> All real waves transport mass and energy.

mass is energy, energy is mass... e=mc^2

> All medium vibrate.

hey, you got something right! yes, all mass can be made to vibrate
one way or another!

> Electrons
> waves are in all media and ions/molecules must be also. The ions waves are
> not mystery. Their existence is obvious.
> Is it?
> S*

waves of ions is obvious, but not in the way you think. ions can flow
in one direction only unlike oscillating electromagnetic or sound

waves... more like water flowing downhill.

771. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-05 07:55:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d9acaff$1$2489$65785112@news.neostrada.pl>
Source record: 5272

<k1ttt@pstn2.net> napisal w wiadomosci
news:f5868ad1-5959-43e9-9727-f72b89fb0eb2@hg8g2000vbb.googlegroups.com...
On Apr 4, 4:30 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
> "Mysterious waves that help transport the sun's energy out into space have
> been detected by scientists for the first time."
> From: http://www.space.com/4279-mysterious-solar-ripples-detected.html

<those waves have nothing to do with electromagnetic waves.

Because they are a real waves.

>
> All real waves transport mass and energy.

<mass is energy, energy is mass... e=mc^2

> All medium vibrate.

<hey, you got something right! yes, all mass can be made to vibrate
one way or another!

> Electrons
> waves are in all media and ions/molecules must be also. The ions waves are
> not mystery. Their existence is obvious.
> Is it?
> S*

<waves of ions is obvious, but not in the way you think. ions can flow
in one direction only

"hey, you got something right! yes, all mass can be made to vibrate
one way or another"

In the oscillatory flow the net flow is in one direction only but ions
travel to and fro.

<unlike oscillating electromagnetic or sound
waves... more like water flowing downhill.

What do the ink particles in your ink printer?
S*

772. SEXY HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-05 08:27:06 UTC
From: SRAVANTHI LOVE <sravanthi.sravya24@gmail.com>
Message-ID: <0eefb6be-6962-4845-981b-10b19d8bbf74@z3g2000prz.googlegroups.com>
Source record: 5273

hot katrina kaif wallpapers
http://cinyworld96.blogspot.com/2011/03/katrina-kaif.html
new hot sruthi hassan stills
http://cinyworld96.blogspot.com/2011/03/shruthi-hassan.html
namitha hot sexy stills
http://cinyworld96.blogspot.com/2011/04/namitha.html
deepika padukone new stills
http://cinyworld96.blogspot.com/2011/03/deepika-padukone.html
hot tamanna sexy wallpapers
http://cinyworld96.blogspot.com/2011/04/tamanna.html
beautiful aishwariya rai
http://cinyworld96.blogspot.com/2011/03/aishwariya-rai.html
diya mirza sexy photos
http://cinyworld96.blogspot.com/2011/03/diya-mirza.html
stunning beauty sneha
http://cinyworld96.blogspot.com/2011/03/sneha.html
unbelivable iliyana photos
http://cinyworld96.blogspot.com/2011/03/iliyana.html
priyamani beautiful stills
http://cinyworld96.blogspot.com/2011/03/priyamani.html
pranitha in half saree
http://cinyworld96.blogspot.com/2011/03/pranitha.html
richa saree stills
http://cinyworld96.blogspot.com/2011/03/richa-gangopadyay.html

773. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-05 14:58:25 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <vk9mp615n3dhf44sij142ad3dgtfkou5bp@4ax.com>
Source record: 5274

On Sun, 03 Apr 2011 10:40:45 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Sun, 03 Apr 2011 10:19:34 -0400, John Ferrell
><jferrell13@triad.rr.com> wrote:
>
>> What I need to know is
>>1- When to use them. RF in the Shack is pretty obvious
>
>Hi John,
>
>Sometimes it is not always that obvious, but it can be made obvious. I
>say this because the symptoms do not always draw our attention to the
>problem arising from Common Mode (CM) current.
>
>One possible obvious symptom is that you can feel the current on the
>shielded components of your system - like a microphone shell when your
>lip brushes along it (which can sometimes give a nasty shock); or when
>you pull a connector and get that tingle of feeling (which might kill
>you if conditions were worse). "Obvious" can vary from subtle to
>deadly.
>

Been there, done that...
although my particular case was trying to cathode modulate a home brew
final about 50 years ago...

>Another possible obvious symptom is you are moving a transmission line
>while keyed down, and you notice your SWR shifts at the same time. Is
>it because of a faulty connection? Sometimes yes, but we are talking
>about CM; and when it is CM, then that shift in SWR is because a tuned
>circuit (the line is now part of a dynamic system) has been changed.
>

I had not thought of that. I will have to check that out.

>* * * * * * * * *
>
>Let's set aside in-the-shack symptoms and look at the antenna end of
>what might be obvious.
>
>For beam antennas, through careful testing with known remote stations
>(beacons, for instance) you find that you have high sidelobes, almost
>no back rejection, and a broad response off the front. The
>transmission line coming down is acting like a vertical antenna, and
>is feeding its drive into the antenna feed point (two antennas in

>parallel). That extra antenna is picking up stations that would
>normally be suppressed by beam design.
>
>Some folks never notice this - and it shows how benign CM can be (it
>is there full blown, but it is NOT obvious at all).
>
>For wire antennas, you cut and cut and trim and trim your antenna to
>frequency, but even though it is book perfect (using the usual
>formulas for length), it is wildly out of whack and a bitch to tune
>with your tuner. Your dipole without choking is actually a tripole:
>two horizontal elements with a third vertical element (which is
>variable in length and relationship to ground/environment as it swings
>in the wind). You raise it higher to see if that does anything, and
>the tune shifts to the moon because the third element has gotten
>longer.
>

You have just described my recent attempt on 160 Meters.
I will put it on my "TO DO" list and try again.

>Again, some people never notice this, we have seen them; others do
>notice it and fulminate against the dipole as being a useless
>invention where their endfire (which suffers the same issues, but is
>magical by comparison) antenna is the cat's meow.
>
>More could be said....
>
>>2- When not to use them. There must be some negatives.
>
>That is a natural question, but I cannot think of any down-side at
>all.
>
>>3- "Compare and Contrast" the Inductor-capacitor choke with the
>>Ferrite Choke(W2DU). Are they electrically equivalent?
>
>They are NOT electrically equivalent. The ARE functionally equivalent
>- that is, they both suit the same purpose of introducing a very hi Z
>into the current path of CM.
>
>The coil of transmission line is, on first pass approximation, an
>inductor whose Z climbs with applied frequency. The presumption is
>that it can only get better for the higher bands. This works to a
>point, but the same coil of TL also has loop-to-loop capacitance, and
>end-to-end capacitance. These two capacitances, at some frequency,
>become resonant and offer you a tank circuit. This works even better
>to isolate the current at the drive point from the rest of the line.
>However, a tank is not a wide band device by definition. It can
>exhibit an extremely hi Z at one frequency, and often high enough Z in
>neighboring bands (hence it is useful if you understand this). As you
>go higher in frequency, and for the very large coils suggested
>earlier, then the capacitances begin to dominate and actually kill any

>sense of choking.

I thought this was a likely scenario but you are the first I have
encountered that passed that along. Somewhere I read about a fellow
who was using spool of coax in the shack for a choke on 160M...
Well intentioned, but clearly not really a solution!

>
>The ferrite choke is a resistor, plain and simple. This means it is
>wide-banded - although its frequency characteristic is not universally
>applicable (this widebandedness usefully covers two, maybe three
>octaves). The formulation of the ferrite determines the coverage, and
>so you can either throw more beads into the mix, or use beads of
>different formulations to create a more flattened frequency response
>(over decades of frequency change).
>
>>4- Are either of them a multi band solution?
>
>Yes, as described above.
>
>>5- Are there Upper and lower frequency limitations for using them.
>
>That too is described above.
>
>>As usual, a Google search provides an overwhelming set of responses
>>that most likely will cover the subject in greater detail than I can
>>digest.
>>
>>Early in the list provided by the search I discovered
>>http://www.audiosystemsgroup.com/RFI-Ham.pdf
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>>That may have all the answers but I have only glanced at the beginning
>>of the 66 page document.
>
>It is a very good and broad discussion. The downside is its enormity.
>However, this is not a simple topic and understanding comes slow.
>
>The reason for that is that Common Mode analysis as distinct from
>Differential Mode analysis immediately brings up the specter of WTF?
>There are TWO currents flowing at the same time in the same circuit?
>
>This perspective is usually very foreign and takes deep meditation to
>come to grips with. It is difficult for the majority of the Pros too.
>
>I am going to prompt readers for the next question:
> "What is common mode current?"
>If any one cares to indulge me by asking, we can go further, but the
>material in this posting is enough to digest in one sitting.
>

It is you who are indulging me!

Google and other Internet resources are very helpful but they are a poor substitute for direct answers to direct questions.

As the sailor told the Captain, "I won't abandon the ship until the keel comes through the foredeck!"

It seems to me that I might get an indication of current on the outside using a Grid dip meter as a detector at various points on the transmission coax.

>73's
>Richard Clark, KB7QHC

774. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-05 15:15:43 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <7lbmp6pd34vn7rs9titgqia4ir8fmgp535@4ax.com>
Source record: 5275

On Sun, 3 Apr 2011 09:43:27 -0700 (PDT), Tom Horne <hornetd@gmail.com>
wrote:

>On Apr 2, 7:04ï¿½pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Sat, 2 Apr 2011 12:06:16 -0700 (PDT), Tom Horne <horn...@gmail.com>
>> wrote:
>>
>> >Richard
>> >I didn't ignore choking the feed line but I will readily confess that
>> >I did not choke it twice. ï¿½Starting immediately below the bottom of
>> >the matching stub I followed the recommendation of the various authors
>> >and wound a multi-turn coax balun with a six inch diameter coils of
>> >coax. ï¿½They call for ten turns if I recall correctly. ï¿½
>>
>> Hi Tom,
>>
>> This sound like very common advice - so common that it begs
>> investigation because it is common advice for HF Choking, not 2M, and
>> certainly not 70cm. ï¿½However, this common advice acknowledges the need
>> for choking.
>>
>> You would be better served using ferrites (W2DU style BalUn/Choke),
>> or, if you really wish to stick with wound coax, then use a Grid Dip
>> Meter to test its resonance (which should reveal you can't serve both
>> bands). ï¿½Using an antenna analyzer to do this will give you measurable
>> Z, and that may give you the data to see how well you are doing. ï¿½You
>> may wind a lot of chokes to discover that the diameter is
>> extraordinarily huge (or so the same for turn count - one or the other
>> or both).
>>
>> >I was not aware
>> >of the need for a second choke at one quarter wavelength away. ï¿½Do you
>> >have the energy to explain why that is necessary? ï¿½
>>
>> [Do I have the energy.... ï¿½With all the junk cluttering this space
>> outside of this thread, I have plenty of energy.]
>>
>> The antenna fields will try to excite the transmission line's common
>> mode (the shield of the coax that it sees). ï¿½This will induce currents
>> that will become radiative (just like stacked elements in a vertical
>> multi-element radiator - sound familiar?). ï¿½The use of chokes at
>> quarterwave intervals snubs these currents.
>>
>> Sometimes more chokes are needed. ï¿½I use a 20' long line with a bead

>> every four inches or so. ï¿½The intent is to create a very long resistor
>> (very wide bandwidth) with very short leads (very high frequency)
>> between its distributed resistance.
>>
>> >How critical is the
>> >length between the two chokes. ï¿½
>>
>> Not particularly, you would be well served to attempt to make it at
>> the interval of quarterwave at the highest frequency used (70cm).
>> This, then, would snub lower frequency (2M) common mode currents.
>>
>> >Do I use the middle of the two chokes
>> >as my measuring points? ï¿½
>>
>> This sounds deceptively exact (and probably a consideration for those
>> enormous chokes of common advice vintage). ï¿½No, such exactitude is
>> going to be lost at the 70cm scale anyway which will be perturbed by
>> other factors (have I talked about environment?).
>>
>> >Could I substitute a one to one current balun
>> >built of ferrite beads? ï¿½That would have a less intrusive appearance
>> >and accumulate less ice in the winter.
>> >If you check the link that I gave for Ed Fong's dual band j-pole;
>> >available here
>> ><http://f1.grp.yahoofs.com/v1/
>> >kL6QTZLk1DQjM_Cn3vuvnsLUIuEsvRHSqUZyX2mw294a7mYKkc
>> >\FBIXXlRY_6QxreqNWVpn0b7Dogiw9LafU63W429yoO/DBJ2_port_art.pdf> or just
>> >look it up in the files section of the Yahoo reflector; ï¿½
>>
>> I would prefer not to add yet one more account registration to simply
>> view this, sorry. ï¿½However, the narrative here should tell you if we
>> agree.
>>
>> >you will see
>> >that he did test it in the field with fairly sophisticated
>> >instrumentation. ï¿½He uses a trapped radiator to obtain similar gain on
>> >seventy centimeters as a simple J-pole without the trap gets on two
>> >meters. ï¿½
>>
>> My background was working in the standards laboratory system of NBS
>> (my speciality was RF measurement to the highest accuracies). ï¿½I know
>> that sophisticated instrumentation and quality results don't
>> necessarily track each other. ï¿½My point was about environment, not
>> instrumentation anyway. ï¿½You don't need $1000 meters, but you might
>> need $1,000,000 environment.
>>
>> The description of Apple's echoless environmental chamber used to test
>> their iPod is a marvel of engineering, and cost a stack of dollars.
>>
>> >His work was published in QST and I didn't find any

>> >authoritative repudiation, or even strong criticism, of his design.
>>
>> The same could be said of publishing it in Playboy. ï¿½QST needs content
>> to offer subscribers. ï¿½Vanity articles satisfy that need. ï¿½Think of
>> these articles as the introduction to a topic, not the final word.
>>
>> >Why would the presence of the trap in the lower half wave of the two
>> >meter collinear half wave J-pole wreck the tuning on two meters.
>>
>> The trap's tuning is heavily influenced by the geometry of the
>> elements because they are also part of the tuning. ï¿½The trap disturbs
>> that symmetry. ï¿½You have also introduced new L and C components that
>> further upsets the total circuit. ï¿½These things are not super-critical
>> when you consider that moving a resonance (say) 145KHz out of 145MHz
>> is only a shift of 0.1%. ï¿½That isn't super-critical either.
>>
>> Or maybe it is.
>>
>> >I'm only trying to learn here.
>>
>> Let me know if this helps.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Richard
>Ed Fong's article can be found on the ARRL website at
><http://www.arrl.org/files/file/Technology/tis/info/pdf/
>0302038.pdf>.
>I was able to access the above link without any password or other
>challenge. I just reread it and found that he does address the
>changes in the two meter element brought on by the inclusion of the
>seventy centimeter trap. For one thing it shortens the two meter
>element somewhat. So let me propose a modification process for my
>collinear dual half wave two meter j-pole and you can tell me if you
>can think of ways to rearrange or modify the steps so as to move
>towards by hoped for results. What I hope to achieve is to maintain
>the gain of the stacked, out of phase, dual half wave antenna on two
>meters AND trap the lower have wave to a single half wave on seventy
>centimeters.
>
>Here are the steps I was thinking of:
>Fabricate a trap from 1/2" copper pipe coming out of a tee that has
>been cut in half through a plane perpendicular to the foot of the
>tee.
>Remove the top half wave and the phasing loop from the existing
>collinear dual half wave antenna
>Attach the stub to the lower half wave so that the open bottom end of
>the stub is one half wave on UHF from the top of the matching stub.
>Measure the SWR on 446 MHz. of the newly trapped two meter radiator.

>Adjust stub location for minimum SWR at 446 MHz.
>Measure SWR at 146 MHz.
>Shorten that radiator to lowest SWR on two meters or until the two SWR
>readings for VHF & UHF are equal.
>Reattach the upper two meter half wave and phasing stub.
>Measure antenna for SWR on both VHF & UHF again
>Adjust length of of upper two meter half wave if necessary.
>
>The antenna analyzer that I will use will be an AEA Technology SWR
>Meter: 140-525. It happens to be what I have available to me.
>
>Does my process seem to be along the right line or would you suggest a
>different order of operations?

I used to use a 48 element Collinear antenna on 439.25 MHz for Amateur TV in Ohio. It was designed by WA8RMC and constructed by WB8LGA.

The procedure to verify that each element was contributing something to the array was to power it with a small signal then watch a field strength meter as far away as you could see it and touch each element to see if it would produce a wiggle on the meter.

No wiggle means that particular element was not doing anything. I think you could do something similar to verify things are coupling.

That particular antenna was a collection of 24 dipole/reflectors in harness. I have been thinking about building another. It was only 4 feet by 6 feet but a whole lot of wind resistance.

I intentionally did not clip this post to keep things in context...

John Ferrell W8CCW

775. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-05 18:00:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pqkmp65rfoj9po237mcjftk1p6k1tosp0k@4ax.com>
Source record: 5276

On Tue, 05 Apr 2011 10:58:25 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>>Another possible obvious symptom is you are moving a transmission line
>>while keyed down, and you notice your SWR shifts at the same time. Is
>>it because of a faulty connection? Sometimes yes, but we are talking
>>about CM; and when it is CM, then that shift in SWR is because a tuned
>>circuit (the line is now part of a dynamic system) has been changed.
>>
>
>I had not thought of that. I will have to check that out.

Hi John,

Another method (that I have not tried, and may be apocryphal) is to
take large piece of tinfoil in your hand (the tin foil is gripped
around the line) and move it along the line while watching the SWR
meter.

The tin foil is used as a means to increase YOUR surface area to the
line because you are the major conductor that is moving. You have
diverted the Common Mode path away from where it was going, by moving
into your hand, through your body, to your feet, and ground.

One very sure method is to insert an additional length of transmission
line in series (will require a barrel connector). Some lengths are
more dramatic in the shift of SWR than others (again, this is about
wavelength).

This method has been reported to us here more than several times -
unfortunately the reporters hadn't connected the dots to recognize
this was a confirmation of CM.

>It seems to me that I might get an indication of current on the
>outside using a Grid dip meter as a detector at various points on the
>transmission coax.

Get a split core ferrite. Snap it around the coax. Add a short length
of wire through the core. Connect the ends of the wire to an LED (now
a complete circuit). Move the core/LED along the line during
key-down. Did the LED glow?

Make sure to test the LED first to see if it glows (I can't imagine
why it would not). Test the LED after this survey to see if it glows
(I can imagine that CM current could have fried it). Play with adding
more turns of the wire through the split core.

You have a simple portable RF transformer/indicator.

73's
Richard Clark, KB7QHC

776. flex arm mount for indoor antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 01:11:24 UTC
From: Tdub <tdub1@inbox.com>
Message-ID: <19ef7c89-7e68-4e5d-8050-7d40ce0ce694@p3g2000vbv.googlegroups.com>
Source record: 5277

Anyone know of a flex arm antenna holder, with a wall mount, for a small indoor antenna? (Flex arm to optimaly position antenna.)

777. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 01:38:50 UTC
From: tom <news4792@taring.org>
Message-ID: <4d9bc429$0$87584$8046368a@newsreader.iphouse.net>
Source record: 5278

On 4/5/2011 2:55 AM, Szczepan Bialek wrote:
>
> What do the ink particles in your ink printer?
> S*

Nothing like someone who is scatterbrained and leading the conversation.

As Bugs used to say "What a maroon!".

I can say nothing else lest I get in trouble.

tom
K0TAR

778. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 07:31:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d9c16b7$1$2506$65785112@news.neostrada.pl>
Source record: 5279

"tom" <news4792@taring.org> napisal w wiadomosci
news:4d9bc429$0$87584$8046368a@newsreader.iphouse.net...
> On 4/5/2011 2:55 AM, Szczepan Bialek wrote:
>>
>> What do the ink particles in your ink printer?
>> S*
>
> Nothing like someone who is scatterbrained and leading the conversation.

In oscillatory flow is the net flow.
Ions in the space oscillate.
S*

779. 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 10:56:21 UTC
From: "carkenord@juno.com" <carkenord@juno.com>
Message-ID: <c33f630e-74f5-488e-b52a-2abad305a33f@i14g2000yqe.googlegroups.com>
Source record: 5280

Let's say I build a horizontal dipole, trimmed for minimum SWR @ 7.200 mhz. I'll probably use 14-16 gauge insulated house wiring for this antenna. It'd be a "nominal' quarter wavelength per leg.

This dipole will be fed with 50 ohm coax, and it will be erected horizontally, 30 feet high over "average" ground.

What SWR reading could I expect to see from this antenna if I tried to use it at 21.300 mhz.....in the same environment as stated above?

Thanks, folks......

FjLee KA0FPJ

780. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 11:28:06 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1fb46042-ab54-4f9a-a6b3-347f43c2b00b@v8g2000yqb.googlegroups.com>
Source record: 5281

On Apr 6, 5:56 am, "carken...@juno.com" <carken...@juno.com> wrote:
> What SWR reading could I expect to see from this antenna if I tried
> to use it at 21.300 mhz........in the same environment as stated
> above?

EZNEC sez 11:1 with a feedpoint impedance of 100-j200 ohms.
--
73, Cecil, w5dxp.com

781. PV Inverter interferance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 12:25:48 UTC
From: Peter <pm@hotmail.com>
Message-ID: <x5qdnQLMYv9LxgHQnZ2dnUVZ8tudnZ2d@westnet.com.au>
Source record: 5282

I was wondering if anyone has experience interference from Solar Power Inverters.
I'm currently access various inverters and noticed that the Kaco Powador-4202 uses a high frequency isolation transformer, so I'm particularly interested in experience with this model, but also keen to hear general experience with these domestic solar power systems.

http://kaco-newenergy.de/en/site/312...te/details.xml

Regards

Peter

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

782. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 15:24:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tc1pp69suo4p0govp51sisiu62irorpjnh@4ax.com>
Source record: 5283

On Wed, 6 Apr 2011 03:56:21 -0700 (PDT), "carkenord@juno.com"
<carkenord@juno.com> wrote:

>What SWR reading could I expect to see...?

15:1

73's
Richard Clark, KB7QHC

783. Re: Antenna Modification Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 15:40:41 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <te1pp6tibnu9gkdmuino3gra69oplq5um2@4ax.com>
Source record: 5284

On Tue, 05 Apr 2011 11:00:18 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Tue, 05 Apr 2011 10:58:25 -0400, John Ferrell
><jferrell13@triad.rr.com> wrote:
>
>>>Another possible obvious symptom is you are moving a transmission line
>>>while keyed down, and you notice your SWR shifts at the same time. Is
>>>it because of a faulty connection? Sometimes yes, but we are talking
>>>about CM; and when it is CM, then that shift in SWR is because a tuned
>>>circuit (the line is now part of a dynamic system) has been changed.
>>>
>>
>>I had not thought of that. I will have to check that out.
>
>Hi John,
>
>Another method (that I have not tried, and may be apocryphal) is to
>take large piece of tinfoil in your hand (the tin foil is gripped
>around the line) and move it along the line while watching the SWR
>meter.
>
>The tin foil is used as a means to increase YOUR surface area to the
>line because you are the major conductor that is moving. You have
>diverted the Common Mode path away from where it was going, by moving
>into your hand, through your body, to your feet, and ground.
>
>One very sure method is to insert an additional length of transmission
>line in series (will require a barrel connector). Some lengths are
>more dramatic in the shift of SWR than others (again, this is about
>wavelength).
>
>This method has been reported to us here more than several times -
>unfortunately the reporters hadn't connected the dots to recognize
>this was a confirmation of CM.
>
>>It seems to me that I might get an indication of current on the
>>outside using a Grid dip meter as a detector at various points on the
>>transmission coax.
>
>Get a split core ferrite. Snap it around the coax. Add a short length
>of wire through the core. Connect the ends of the wire to an LED (now
>a complete circuit). Move the core/LED along the line during
>key-down. Did the LED glow?

>
>Make sure to test the LED first to see if it glows (I can't imagine
>why it would not). Test the LED after this survey to see if it glows
>(I can imagine that CM current could have fried it). Play with adding
>more turns of the wire through the split core.
>
>You have a simple portable RF transformer/indicator.
>
>73's
>Richard Clark, KB7QHC
When TV was in in its infancy and in Ham TV we frequently used 300 ohm twin lead transmission lines. The effect was dramatic when you wrapped foil around the twin lead and moved it up an down the feedline. If a half wave of line was accessible, You had the full range of tuning.

I also have a meter stick with a pair of wires on which I can slide a shorting bar. The usual indicator is a 50 micro amp meter with a 1n34 germanium diode and either a dipole or sense loop attached. Nearly all of that work was done at 440 mhz.

I will think about that LED indicator. Usually I keep the power low when doing this sort of thing. The threshold required to trigger the led. Also, once it triggers the abrupt transistion would probably affect the operating conditions. Perhaps it is time to increase the power a bit for such experiments...

John Ferrell W8CCW

784. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 15:42:48 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <o8eu68-qdj.ln1@mail.specsol.com>
Source record: 5285

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "tom" <news4792@taring.org> napisal w wiadomosci
> news:4d9bc429$0$87584$8046368a@newsreader.iphouse.net...
>> On 4/5/2011 2:55 AM, Szczepan Bialek wrote:
>>>
>>> What do the ink particles in your ink printer?
>>> S*
>>
>> Nothing like someone who is scatterbrained and leading the conversation.
>
> In oscillatory flow is the net flow.
> Ions in the space oscillate.
> S*

Babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.
```

785. Re: PV Inverter interferance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 17:31:04 UTC
From: dplatt@radagast.org
Message-ID: <ojku68-8gg.ln1@radagast.org>
Source record: 5287

In article <x5qdnQLMYv9LxgHQnZ2dnUVZ8tudnZ2d@westnet.com.au>,
Peter <pm@hotmail.com> wrote:

>I was wondering if anyone has experience interference from Solar Power
>Inverters.

>I'm currently access various inverters and noticed that the Kaco
>Powador-4202 uses a high frequency isolation transformer, so I'm
>particularly interested in experience with this model, but also keen to hear
>general experience with these domestic solar power systems.

I, and one of my friends, did have problems with a solar "charge
controller", which I use with a small solar panel to trickle-charge /
float an AGM battery.

It's apparently based on a buck-mode switching voltage regulator,
down-regulating the voltage from a panel (nominal 18 volts
open-circuit) to the lower voltage and higher current needed to charge
a lead-acid battery properly. When my friend first installed one, his
comment was "Holy QRM, Batman!". The switching noise was sufficient
to wipe out reception on his HF radio transceiver nearby.

My guess at the time was that most of the RF was being radiated out of
the solar panel and the 15-20' of wire running to it. I suggested
buying a standard AC power-line filter module (the sort made by Corcom
and many others) or two, placing one on the solar-panel side of the
charge controller and the other on the battery-being-charged side.
These modules can choke/filter out both common-mode and differential
noise.

This completely eliminate the QRM problem. Apparently the amount of
RF noise radiated directly by the controller itself is negligible...
the switching noise is only a problem if it's fed into wires long
enough to act as antennas.

EMI filters of this sort aren't hard to come by on the surplus market,
and are also available new. You might want to consider spec'ing a
filter of this sort as part of any solar-charger or solar-inverter
system you have installed. RFI/EMI levels which are low enough to
meet legal requirements, may still be high enough to interfere with
some sensitive communications... extra filtering may save you from this.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

786. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 17:42:48 UTC
From: No Spam <nospam@nospam.com>
Message-ID: <ini8mo$gr4$1@news.albasani.net>
Source record: 5286

On Wed, 06 Apr 2011 03:56:21 -0700, carkenord@juno.com wrote:

> Let's say I build a horizontal dipole, trimmed for minimum SWR @ 7.200
> mhz. I'll probably use 14-16 gauge insulated house wiring for this
> antenna. It'd be a "nominal' quarter wavelength per leg.
>
> This dipole will be fed with 50 ohm coax, and it will be erected
> horizontally, 30 feet high over "average" ground.
>
> What SWR reading could I expect to see from this antenna if I tried to
> use it at 21.300 mhz........in the same environment as stated above?
>
> Thanks, folks......
>
> FjLee KA0FPJ

Google a fan dipole. It sounds like something you may be interested in

787. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 19:51:29 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <inig84$s50$1@dont-email.me>
Source record: 5288

On 4/6/2011 6:28 AM, Cecil Moore wrote:
> On Apr 6, 5:56 am, "carken...@juno.com"<carken...@juno.com> wrote:
>> What SWR reading could I expect to see from this antenna if I tried
>> to use it at 21.300 mhz........in the same environment as stated
>> above?
>
> EZNEC sez 11:1 with a feedpoint impedance of 100-j200 ohms.
> --
> 73, Cecil, w5dxp.com

Hey Cecil -

I got:

Impedance = 85.26 - J 186.3 ohms
SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308

Let's see if we can determine why they don't match.

I adjusted the wire length for no reactance at 7.2 MHz.
I used 99 segments of #14 wire. I did not include insulation effects.

How about yours?

John

788. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 20:02:56 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <inigtl$um6$1@dont-email.me>
Source record: 5289

On 4/6/2011 2:51 PM, John - KD5YI wrote:
> On 4/6/2011 6:28 AM, Cecil Moore wrote:
>> On Apr 6, 5:56 am, "carken...@juno.com"<carken...@juno.com> wrote:
>>> What SWR reading could I expect to see from this antenna if I tried
>>> to use it at 21.300 mhz........in the same environment as stated
>>> above?
>>
>> EZNEC sez 11:1 with a feedpoint impedance of 100-j200 ohms.
>> --
>> 73, Cecil, w5dxp.com
>
> Hey Cecil -
>
> I got:
>
> Impedance = 85.26 - J 186.3 ohms
> SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308
>
> Let's see if we can determine why they don't match.
>
> I adjusted the wire length for no reactance at 7.2 MHz.
> I used 99 segments of #14 wire. I did not include insulation effects.
>
> How about yours?
>
> John

Oops! I just noticed that I had zero wire resistance. Changed it to
copper but only got a slight change:

Impedance = 87.47 - J 184 ohms
SWR (50 ohm system) = 9.960 (75 ohm system) = 7.042

789. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 20:13:21 UTC
From: nm5k@wt.net
Message-ID: <01bdacd1-7962-473e-865b-7f2d65d00baa@glegroupsg2000goo.googlegroups.com>
Source record: 5290

Just slap a small tuner inline and away you go..
The losses won't be enough to really worry about.

790. Re: PV Inverter interferance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 20:57:48 UTC
From: k1ttt@pstn2.net
Message-ID: <c177c002-27e7-49e6-87f0-70b7d85696ec@u8g2000yqh.googlegroups.com>
Source record: 5291
Body handling: HTML body converted to readable text

On Apr 6, 12:25 pm, "Peter" wrote:
> I was wondering if anyone has experience interference from Solar Power
> Inverters.
> I'm currently access various inverters and noticed that the Kaco
> Powador-4202 uses a high frequency isolation transformer, so I'm
> particularly interested in experience with this model, but also keen to hear
> general experience with these domestic solar power systems.
>
> http://kaco-newenergy.de/en/site/312...te/details.xml
>
> Regards
>
> Peter
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

this is my system:
http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#solar
http://enlighten.enphaseenergy.com/public/systems/BpbD5251

using these inverters:
http://www.enphaseenergy.com/products/index.cfm
I can pick up some broadband hash if i take a sw receiver out and put
it inches from the array, but it is in the middle of the antenna farm
and i haven't picked up anything in the station from it.

791. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-06 21:38:45 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <inimha$jt4$1@dont-email.me>
Source record: 5292

On 4/5/2011 12:55 AM, Szczepan Bialek wrote:

> ...
> <waves of ions is obvious, but not in the way you think. ions can flow
> in one direction only
> ...

I don't think so ...

Ocean waves, sound waves, through water/air, pretty much, and just vibrate matter in place. They don't really use movement of matter though matter as locamotion, i.e. no "real" matter gets transported, they simply affect more matter, by "bumping it", which in turn affects more matter, etc. Or, simply matter vibrating ... energy vibrating it.

Ions are like bullets, they do use movement as their means of transporting themselves, and they don't "remain in place."

Ether fills space, the space between the atoms of air, and all other matter (and, most likely, even fills the space within an atom!) ... it simply can be made to "vibrate", like water vibrating in place and creating waves which transverse the pond ...

The ether/wave model is the only model which can, and in quite simple terms and design, account for waves transversing non-empty space (a vacuum containing only ether.)

All other models which have been constructed require elaborate explanations and examples which are only imaginary in existence (no direct physical examples can be had/seen.)

Someone should be able to make quite a comfortable monetary living keeping Occams' Razor honed sharp!

Regards,
JS

792. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 00:57:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <inj25p$4aa$1@news.jpl.nasa.gov>
Source record: 5293

John - KD5YI wrote:
> On 4/6/2011 2:51 PM, John - KD5YI wrote:
>> On 4/6/2011 6:28 AM, Cecil Moore wrote:
>>> On Apr 6, 5:56 am, "carken...@juno.com"<carken...@juno.com> wrote:
>>>> What SWR reading could I expect to see from this antenna if I tried
>>>> to use it at 21.300 mhz........in the same environment as stated
>>>> above?
>>>
>>> EZNEC sez 11:1 with a feedpoint impedance of 100-j200 ohms.
>>> --
>>> 73, Cecil, w5dxp.com
>>
>> Hey Cecil -
>>
>> I got:
>>
>> Impedance = 85.26 - J 186.3 ohms
>> SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308
>>
>> Let's see if we can determine why they don't match.
>>
>> I adjusted the wire length for no reactance at 7.2 MHz.
>> I used 99 segments of #14 wire. I did not include insulation effects.
>>
>> How about yours?
>>
>> John
>
> Oops! I just noticed that I had zero wire resistance. Changed it to
> copper but only got a slight change:
>
> Impedance = 87.47 - J 184 ohms
> SWR (50 ohm system) = 9.960 (75 ohm system) = 7.042
>

If you tune it down a bit so you resonate at perhaps 7.15, then the
third harmonic will be closer to 21.3. It's a dipole, so not real high
Q, particularly on the fundamental, so maybe what you do is go for a
compromise tuning.. A bit low on 40 and a bit high on 15.

793. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 01:05:51 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <inj2li$h69$3@dont-email.me>
Source record: 5294

```
On 4/6/2011 7:57 PM, Jim Lux wrote:
> John - KD5YI wrote:
>> On 4/6/2011 2:51 PM, John - KD5YI wrote:
>>> On 4/6/2011 6:28 AM, Cecil Moore wrote:
>>>> On Apr 6, 5:56 am, "carken...@juno.com"<carken...@juno.com> wrote:
>>>>> What SWR reading could I expect to see from this antenna if I tried
>>>>> to use it at 21.300 mhz........in the same environment as stated
>>>>> above?
>>>>
>>>> EZNEC sez 11:1 with a feedpoint impedance of 100-j200 ohms.
>>>> --
>>>> 73, Cecil, w5dxp.com
>>>
>>> Hey Cecil -
>>>
>>> I got:
>>>
>>> Impedance = 85.26 - J 186.3 ohms
>>> SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308
>>>
>>> Let's see if we can determine why they don't match.
>>>
>>> I adjusted the wire length for no reactance at 7.2 MHz.
>>> I used 99 segments of #14 wire. I did not include insulation effects.
>>>
>>> How about yours?
>>>
>>> John
>>
>> Oops! I just noticed that I had zero wire resistance. Changed it to
>> copper but only got a slight change:
>>
>> Impedance = 87.47 - J 184 ohms
>> SWR (50 ohm system) = 9.960 (75 ohm system) = 7.042
>>
>
>
> If you tune it down a bit so you resonate at perhaps 7.15, then the
> third harmonic will be closer to 21.3. It's a dipole, so not real high
> Q, particularly on the fundamental, so maybe what you do is go for a
> compromise tuning.. A bit low on 40 and a bit high on 15.

Well, yeah, I know. But, I'm trying to simulate based on the OP's info
and Cecil's results.
```

John

794. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 01:16:22 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <inj399$in5$1@dont-email.me>
Source record: 5295

On 4/6/2011 2:51 PM, John - KD5YI wrote:
> On 4/6/2011 6:28 AM, Cecil Moore wrote:
>> On Apr 6, 5:56 am, "carken...@juno.com"<carken...@juno.com> wrote:
>>> What SWR reading could I expect to see from this antenna if I tried
>>> to use it at 21.300 mhz........in the same environment as stated
>>> above?
>>
>> EZNEC sez 11:1 with a feedpoint impedance of 100-j200 ohms.
>> --
>> 73, Cecil, w5dxp.com
>
> Hey Cecil -
>
> I got:
>
> Impedance = 85.26 - J 186.3 ohms
> SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308
>
> Let's see if we can determine why they don't match.
>
> I adjusted the wire length for no reactance at 7.2 MHz.
> I used 99 segments of #14 wire. I did not include insulation effects.
>
> How about yours?
>
> John

Are you using 9 segments?

John

795. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 01:57:11 UTC
From: tom <news4792@taring.org>
Message-ID: <4d9d19f4$0$87583$8046368a@newsreader.iphouse.net>
Source record: 5296

On 4/6/2011 8:16 PM, John - KD5YI wrote:
> On 4/6/2011 2:51 PM, John - KD5YI wrote:
>>
>> Hey Cecil -
>>
>> I got:
>>
>> Impedance = 85.26 - J 186.3 ohms
>> SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308
>>
>> Let's see if we can determine why they don't match.
>>
>> I adjusted the wire length for no reactance at 7.2 MHz.
>> I used 99 segments of #14 wire. I did not include insulation effects.
>>
>> How about yours?
>>
>> John
>
> Are you using 9 segments?
>
> John

I think may have missed something on how segmentation works. I thought
you needed an even number of segments to split a dipole evenly.

So while 99 is close to centered by my logic, if 9 was used it might
skew things a bit.

If I'm off base please tell me so I can adjust my model of how NEC works.

Thanks.

tom
K0TAR

796. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 02:07:04 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <inj68d$rp4$1@dont-email.me>
Source record: 5297

On 4/6/2011 8:57 PM, tom wrote:
> On 4/6/2011 8:16 PM, John - KD5YI wrote:
>> On 4/6/2011 2:51 PM, John - KD5YI wrote:
>>>
>>> Hey Cecil -
>>>
>>> I got:
>>>
>>> Impedance = 85.26 - J 186.3 ohms
>>> SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308
>>>
>>> Let's see if we can determine why they don't match.
>>>
>>> I adjusted the wire length for no reactance at 7.2 MHz.
>>> I used 99 segments of #14 wire. I did not include insulation effects.
>>>
>>> How about yours?
>>>
>>> John
>>
>> Are you using 9 segments?
>>
>> John
>
> I think may have missed something on how segmentation works. I thought
> you needed an even number of segments to split a dipole evenly.
>
> So while 99 is close to centered by my logic, if 9 was used it might
> skew things a bit.
>
> If I'm off base please tell me so I can adjust my model of how NEC works.
>
> Thanks.
>
> tom
> K0TAR

Hi, Tom -

As far as I am aware, using an odd number of segments in a wire allows
the source to be placed in the center of a segment with equal numbers of
segments on each side.

Think of it this way: a source needs to be in the middle of a segment.
So, you need an even number of segments on each side to keep everything

balanced. If so, then the total number of segments needs to be odd.

If this does not make sense, please ask again and I'll try with more detail.

Cheers,
John

797. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 02:37:37 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <ok8qp65htcsh00qhtjkndfhhe7dgfs5agk@4ax.com>
Source record: 5298

On Wed, 6 Apr 2011 03:56:21 -0700 (PDT), "carkenord@juno.com"
<carkenord@juno.com> wrote:

> Let's say I build a horizontal dipole, trimmed for minimum SWR @
>7.200 mhz. I'll probably use 14-16 gauge insulated house wiring for
>this antenna. It'd be a "nominal' quarter wavelength per leg.
>
>This dipole will be fed with 50 ohm coax, and it will be erected
>horizontally, 30 feet high over "average" ground.
>
>What SWR reading could I expect to see from this antenna if I tried
>to use it at 21.300 mhz........in the same environment as stated
>above?
>
>Thanks, folks......
>
>FjLee KA0FPJ

Just put it up and see what happens.

Slap a tuner in the line.

Or check out a fan dipole.

Or buy a pair of 15 meter traps and use the design sheet that comes
with them to build a 40-15 trap dipole.
http://www.unadilla.com/?p=34

798. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 04:19:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f024574b-688f-46f2-a778-506d68f005c3@j17g2000vbr.googlegroups.com>
Source record: 5299

On Apr 6, 2:51 pm, John - KD5YI <soph...@invalid.org> wrote:
> How about yours?

I used an EZ file that I already had. It was 40 feet high and I
rounded off the feedpoint impedance. I thought that would be a close
enough approximation.
--
73, Cecil, w5dxp.com

799. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 05:47:31 UTC
From: nm5k@wt.net
Message-ID: <022a295f-7495-4858-a30a-956a451f9c3b@glegroupsg2000goo.googlegroups.com>
Source record: 5300

I've used parallel fed "fan" dipoles for years.
But I've never bothered with legs for 15m..
Always used the 40 m legs for 15m.. Guess a habit back
from my novice days.. Back then, my old transmitters
would match either load no sweat.. No tuner required..
Heck, I didn't even use an SWR meter when I first
started.. :/ Never missed it either..
With my modern rigs, the match on 15m, using the
40m legs is usually a tad higher than I'd like for
S/S finals.. :(
So I slap a tuner into the picture as a "line
flattener". Even a cheapy MFJ random wire tuner will
match that.. And most internal radio tuners could
probably handle it ok.
It's not too far off from being a 3/4 wave on 15m.
None of my radios have internal tuners, but
I have several stand alone tuners.

800. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1302156301@panix.com>
Source record: 5201
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

801. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 07:53:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d9d6d64$1$2449$65785112@news.neostrada.pl>
Source record: 5202

"John Smith" <assemblywizard@gmail.com> napisal w wiadomosci
news:inimha$jt4$1@dont-email.me...
> On 4/5/2011 12:55 AM, Szczepan Bialek wrote:
>
>>k1ttt wrote:
>> <waves of ions is obvious, but not in the way you think. ions can flow
>> in one direction only
>> ...
>
> I don't think so ...
>
> Ocean waves, sound waves, through water/air, pretty much, and just vibrate
> matter in place. They don't really use movement of matter though matter
> as locamotion, i.e. no "real" matter gets transported, they simply affect
> more matter, by "bumping it", which in turn affects more matter, etc. Or,
> simply matter vibrating ... energy vibrating it.

All real waves are asymmetric. For this reason they transport mass.
>
> Ions are like bullets, they do use movement as their means of transporting
> themselves, and they don't "remain in place."
>
> Ether fills space, the space between the atoms of air, and all other
> matter (and, most likely, even fills the space within an atom!) .

I prefer Faraday's idea. No aether. In space is the same as in metal.
Wibrating ions and electrons.

>.. it simply can be made to "vibrate", like water vibrating in place and
>creating waves which transverse the pond ...

In aether model aether vibrate and particles "are in place". In Faraday's
model particles vibrate and no aether between them.

> The ether/wave model is the only model which can, and in quite simple
> terms and design, account for waves transversing non-empty space (a vacuum
> containing only ether.)

In real space no aether but ISM (rare plasma + dust).
>
> All other models which have been constructed require elaborate
> explanations and examples which are only imaginary in existence (no direct
> physical examples can be had/seen.)

The same speed of electric disturbances in copper and light in space was the
physical examples for the idea "no aether but vibrating particles".

"I suppose we may compare together the matter of the aether and ordinary matter (as, for instance, the copper of the wire through which the electricity is conducted), and consider them as alike in their essential constitution; i.e. either as both composed of little nuclei, considered in the abstract as matter'. From: http://www.padrak.com/ine/FARADAY1.html

In above Faraday use the word aether but he explains what it is made of. Today we say space. Space is filled with ISM.
S*

802. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 11:20:05 UTC
From: k1ttt@pstn2.net
Message-ID: <f9811598-4b95-4c03-838a-ff6be881d598@f30g2000yqa.googlegroups.com>
Source record: 5203

On Apr 7, 7:53 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "John Smith" <assemblywiz...@gmail.com> napisal w
wiadomoscinews:inimha$jt4$1@dont-email.me...
>
> > On 4/5/2011 12:55 AM, Szczepan Bialek wrote:
>
> >>k1ttt wrote:
> >> <waves of ions is obvious, but not in the way you think. ions can flow
> >> in one direction only
> >> ...
>
> > I don't think so ...
>
> > Ocean waves, sound waves, through water/air, pretty much, and just vibrate
> > matter in place. They don't really use movement of matter though matter
> > as locamotion, i.e. no "real" matter gets transported, they simply affect
> > more matter, by "bumping it", which in turn affects more matter, etc. Or,
> > simply matter vibrating ... energy vibrating it.
>
> All real waves are asymmetric. For this reason they transport mass.
>
>
>
> > Ions are like bullets, they do use movement as their means of transporting
> > themselves, and they don't "remain in place."
>
> > Ether fills space, the space between the atoms of air, and all other
> > matter (and, most likely, even fills the space within an atom!) .
>
> I prefer Faraday's idea. No aether. In space is the same as in metal.
> Wibrating ions and electrons.
>
> >.. it simply can be made to "vibrate", like water vibrating in place and
> >creating waves which transverse the pond ...
>
> In aether model aether vibrate and particles "are in place". In Faraday's
> model particles vibrate and no aether between them.
>
> > The ether/wave model is the only model which can, and in quite simple
> > terms and design, account for waves transversing non-empty space (a vacuum
> > containing only ether.)
>
> In real space no aether but ISM (rare plasma + dust).
>

>
>
> > All other models which have been constructed require elaborate
> > explanations and examples which are only imaginary in existence (no direct
> > physical examples can be had/seen.)
>
> The same speed of electric disturbances in copper and light in space was the
> physical examples for the idea "no aether but vibrating particles".
> "I suppose we may compare together the matter of the aether and ordinary
> matter (as, for instance, the copper of the wire through which the
> electricity is conducted), and consider them as alike in their essential
> constitution; i.e. either as both composed of little nuclei, considered in
> the abstract as matter'. From: http://www.padrak.com/ine/FARADAY1.html
>
> In above Faraday use the word aether but he explains what it is made of.
> Today we say space. Space is filled with ISM.
> S*

but in vibrating particle waves like sound waves the speed of the wave
is very dependent on the density of the material. with sound waves
the waves travel faster in dense material, compare the speed of sound
in air and a metal bar. with electromagnetic waves that is backwards,
they travel slower in dense material and fastest in a vacuum.

803. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 12:00:22 UTC
From: "carkenord@juno.com" <carkenord@juno.com>
Message-ID: <3bc5739f-5c12-42a0-9442-6373f86ac6ac@k9g2000yqi.googlegroups.com>
Source record: 5204

Thank you for the response, folks. I appreciate it.

.....and OUCH!!!.....

The swr is higher than I had hoped for. I was hoping to use a duo-band 15/40 meter wire dipole that could be fed directly with 50 ohm coax connected to my Yaesu FT-450AT with internal tuner.

But the FT 450 AT internal tuner will only match up to a 3:1 swr, so that won't be "do-able".

Thank you again......

FjLee KA0FPJ
Denver CO

804. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 12:18:19 UTC
From: tom <news4792@taring.org>
Message-ID: <4d9dab88$0$87581$8046368a@newsreader.iphouse.net>
Source record: 5205

On 4/6/2011 9:07 PM, John - KD5YI wrote:
>
> Hi, Tom -
>
> As far as I am aware, using an odd number of segments in a wire allows
> the source to be placed in the center of a segment with equal numbers of
> segments on each side.
>
> Think of it this way: a source needs to be in the middle of a segment.
> So, you need an even number of segments on each side to keep everything
> balanced. If so, then the total number of segments needs to be odd.
>
> If this does not make sense, please ask again and I'll try with more
> detail.
>
> Cheers,
> John

Thanks! I guess I'll have to look into the docs a bit to educate myself.

tom
K0TAR

805. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 13:47:46 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <60e49304-d3ab-480b-845a-cecf77a20b07@r3g2000yqh.googlegroups.com>
Source record: 5206

On Apr 7, 7:00 am, "carken...@juno.com" <carken...@juno.com> wrote:
> Thank you for the response, folks. I appreciate it.
>
> ....and OUCH!!!.......
>
> The swr is higher than I had hoped for. I was hoping to use a duo-
> band 15/40 meter wire dipole that could be fed directly with 50 ohm
> coax connected to my Yaesu FT-450AT with internal tuner.
>
> But the FT 450 AT internal tuner will only match up to a 3:1 swr, so
> that won't be "do-able".
>
> Thank you again......
>
> FjLee   KA0FPJ
> Denver CO

See QST Dec. 1991 Hints and Kinks. The author cut the dipole for the
low end of 40M~67' and used a Q section of RG59 cut for 21 MHZ to
improve the match on 15M.

Gary N4AST

806. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 15:52:55 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <inkmkt$4gt$1@dont-email.me>
Source record: 5207

On 4/7/2011 12:53 AM, Szczepan Bialek wrote:

>
> All real waves are asymmetric. For this reason they transport mass.
>>

As I allowed for, they vibrate, only, which can be defined, or re-word
to "transporting matter, in place."

>
> I prefer Faraday's idea. No aether. In space is the same as in metal.
> Wibrating ions and electrons.
>

Nothing wrong with that. If we all seen things the same, all things
would be the same (well, virtually, anyway!)

> ...
> In aether model aether vibrate and particles "are in place". In
> Faraday's model particles vibrate and no aether between them.
> ...

Yes, well, there is no such thing as an "empty box." In such a box, all
the sides end up compressed against each other, obviously.

>
> In real space no aether but ISM (rare plasma + dust).
>>

Yes, I see, "something floating in nothing." All I see is an impossibility.

>
> The same speed of electric disturbances in copper and light in space was
> the physical examples for the idea "no aether but vibrating particles".
> "I suppose we may compare together the matter of the aether and ordinary
> matter (as, for instance, the copper of the wire through which the
> electricity is conducted), and consider them as alike in their essential
> constitution; i.e. either as both composed of little nuclei, considered
> in the abstract as matter'. From: http://www.padrak.com/ine/FARADAY1.html
>
> In above Faraday use the word aether but he explains what it is made of.
> Today we say space. Space is filled with ISM.
> S*

Ether severs another import avenue to explain another observed
phenomenon. How two particles can exist at the same place, at the same
time -- ether is the medium transporting the information so that this

becomes quite possible. Even makes the concept of time travel theoretically possible, indeed, being in two times, at the same time only appears as a possibility which exploits the same phenomenon.

Regards,
JS

807. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 16:38:47 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <inkpaq$cg7$1@dont-email.me>
Source record: 5208

On 4/6/2011 11:19 PM, Cecil Moore wrote:
> On Apr 6, 2:51 pm, John - KD5YI<soph...@invalid.org> wrote:
>> How about yours?
>
> I used an EZ file that I already had. It was 40 feet high and I
> rounded off the feedpoint impedance. I thought that would be a close
> enough approximation.
> --
> 73, Cecil, w5dxp.com

I understand. Of course, it's close enough. I was just wondering why my answers did not agree with yours, but now I do.

Thanks,
John

808. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 16:46:07 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d9dea52$1$2440$65785112@news.neostrada.pl>
Source record: 5209

<k1ttt@pstn2.net> napisal w wiadomosci
news:f9811598-4b95-4c03-838a-ff6be881d598@f30g2000yqa.googlegroups.com...
On Apr 7, 7:53 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
> The same speed of electric disturbances in copper and light in space was
> the
> physical examples for the idea "no aether but vibrating particles".
> "I suppose we may compare together the matter of the aether and ordinary
> matter (as, for instance, the copper of the wire through which the
> electricity is conducted), and consider them as alike in their essential
> constitution; i.e. either as both composed of little nuclei, considered in
> the abstract as matter'. From: http://www.padrak.com/ine/FARADAY1.html
>
> In above Faraday use the word aether but he explains what it is made of.
> Today we say space. Space is filled with ISM.
> S*

<but in vibrating particle waves like sound waves the speed of the wave
is very dependent on the density of the material.
with sound waves the waves travel faster in dense material, compare the
speed of sound
in air and a metal bar.

No. The slowest is in rubber. Speed is the elesticity modulus dependent.

< with electromagnetic waves that is backwards,
they travel slower in dense material and fastest in a vacuum.

For electric waves electrons are the medium. Ions are like the sand or fog
in air for sound waves.
S*

809. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 17:00:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d9dedac$1$2448$65785112@news.neostrada.pl>
Source record: 5210

"John Smith" <assemblywizard@gmail.com> napisal w wiadomosci
news:inkmkt$4gt$1@dont-email.me...
> On 4/7/2011 12:53 AM, Szczepan Bialek wrote:
>
>>
>> All real waves are asymmetric. For this reason they transport mass.
>>>
>
> As I allowed for, they vibrate, only, which can be defined, or re-word to
> "transporting matter, in place."

See Stokes drift: http://en.wikipedia.org/wiki/Stokes_drift
>
>>
>> I prefer Faraday's idea. No aether. In space is the same as in metal.
>> Wibrating ions and electrons.
>>
>
> Nothing wrong with that. If we all seen things the same, all things would
> be the same (well, virtually, anyway!)
>
>> ...
>> In aether model aether vibrate and particles "are in place". In
>> Faraday's model particles vibrate and no aether between them.
>> ...
>
> Yes, well, there is no such thing as an "empty box." In such a box, all
> the sides end up compressed against each other, obviously.
>
>>
>> In real space no aether but ISM (rare plasma + dust).
>>>
>
> Yes, I see, "something floating in nothing." All I see is an
> impossibility.

Air is floating in nothing. But between the air molecules are ions and
electrons. In the space the proportions are different than in air.
>
>>
>> The same speed of electric disturbances in copper and light in space was
>> the physical examples for the idea "no aether but vibrating particles".
>> "I suppose we may compare together the matter of the aether and ordinary
>> matter (as, for instance, the copper of the wire through which the
>> electricity is conducted), and consider them as alike in their essential

>> constitution; i.e. either as both composed of little nuclei, considered
>> in the abstract as matter'. From: http://www.padrak.com/ine/FARADAY1.html
>>
>> In above Faraday use the word aether but he explains what it is made of.
>> Today we say space. Space is filled with ISM.
>> S*
>
> Ether severs another import avenue to explain another observed phenomenon.
> How two particles can exist at the same place, at the same time

They vibrate and drift. Collision are also possible.

-- ether is the medium transporting the information so that this
> becomes quite possible. Even makes the concept of time travel
> theoretically possible, indeed, being in two times, at the same time only
> appears as a possibility which exploits the same phenomenon.

Faraday said - no aether. He is always right.
S*

810. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 17:09:57 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <inkr5c$i4d$1@dont-email.me>
Source record: 5211

On 4/7/2011 10:00 AM, Szczepan Bialek wrote:

> ...
> Faraday said - no aether. He is always right.
> S*

And, I favor Einstein and the gravitational aether.

However, I am hoping CERN, when in full swing, will start churning data which tosses the truth to one side, or another ...

Often, a search for one thing/phenomenon/effect/affect/etc. will, quite surprisingly, answer a totally different set of questions in an obtuse angle to the intended direction of the original questions.

Anyway, I can always hope ...

Regards,
JS

811. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 17:17:02 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <inkrik$j4d$1@dont-email.me>
Source record: 5212

On 4/7/2011 9:46 AM, Szczepan Bialek wrote:

> ...
> For electric waves electrons are the medium. Ions are like the sand or
> fog in air for sound waves.
> S*
>

Actually, if you extrapolate the most likely possibility of what ether is, it is most likely, the smallest possible particle of what all matter is made/composed of.

And, because of the obviously, most extreme diminutive size of these particles (which ether is), the ether particles exhibit properties/qualities which do not even "see" these larger constructs of itself ...

Regards,
JS

812. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 18:50:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <inl11goem1@news.jpl.nasa.gov>
Source record: 5213

tom wrote:
> On 4/6/2011 8:16 PM, John - KD5YI wrote:
>> On 4/6/2011 2:51 PM, John - KD5YI wrote:
>>>
>>> Hey Cecil -
>>>
>>> I got:
>>>
>>> Impedance = 85.26 - J 186.3 ohms
>>> SWR (50 ohm system) = 10.337 (75 ohm system) = 7.308
>>>
>>> Let's see if we can determine why they don't match.
>>>
>>> I adjusted the wire length for no reactance at 7.2 MHz.
>>> I used 99 segments of #14 wire. I did not include insulation effects.
>>>
>>> How about yours?
>>>
>>> John
>>
>> Are you using 9 segments?
>>
>> John
>
> I think may have missed something on how segmentation works. I thought
> you needed an even number of segments to split a dipole evenly.
>
> So while 99 is close to centered by my logic, if 9 was used it might
> skew things a bit.
>
> If I'm off base please tell me so I can adjust my model of how NEC works.
>
>

I always use an odd number of segments, and the middle segment is where
I feed it. The voltage source is essentially in series with the
segment, and if your segments are short enough, the current distribution
along the segment is effectively uniform, so it makes no difference.
OTOH, I'm running NEC4 with a lot of memory in double precision, so
using hundreds of segments isn't a big deal.

813. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 18:53:02 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <inl160oem2@news.jpl.nasa.gov>
Source record: 5214

carkenord@juno.com wrote:
> Thank you for the response, folks. I appreciate it.
>
> ....and OUCH!!!.......
>
> The swr is higher than I had hoped for. I was hoping to use a duo-
> band 15/40 meter wire dipole that could be fed directly with 50 ohm
> coax connected to my Yaesu FT-450AT with internal tuner.
>
> But the FT 450 AT internal tuner will only match up to a 3:1 swr, so
> that won't be "do-able".
>
> Thank you again......
>
> FjLee KA0FPJ
> Denver CO

I think it *will* work (based on practical experience.. I've done this a bunch of times).. you just need to fiddle with the length to get an acceptable match in both bands. And, of course, you're not going to get something which matches the bottom of one band and the top of the other.

People fling up dipoles (theoretical feedpoint Z around 70 ohms) and feed them with 50 ohm coax all the time and never give it a second thought. (partly that's because rarely is the dipole perfectly flat.. if it droops or peaks up, the Z gets closer to 50 ohms)

814. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 20:13:31 UTC
From: dplatt@radagast.org
Message-ID: <bgi178-ihf.ln1@radagast.org>
Source record: 5215

>> The swr is higher than I had hoped for. I was hoping to use a duo-
>> band 15/40 meter wire dipole that could be fed directly with 50 ohm
>> coax connected to my Yaesu FT-450AT with internal tuner.
>>
>> But the FT 450 AT internal tuner will only match up to a 3:1 swr, so
>> that won't be "do-able".

>I think it *will* work (based on practical experience.. I've done this a
>bunch of times).. you just need to fiddle with the length to get an
>acceptable match in both bands. And, of course, you're not going to get
>something which matches the bottom of one band and the top of the other.

I agree, it may very well work acceptably. I've been able to get a similar 40-meter wire to match up OK on 15 meters, using the autotuner built into my Kenwood TS-2000.

Another option would be to add some sort of matching element, either at the antenna or at the rig, which would bring the feedpoint impedances on both bands to within the ranges acceptable to the rig's internal tuner.

If the antenna is close to 50 ohms resistive in the 40-meter band, and is around 85.26 - J 186.3 in the 15-meter band, then you could consider adding a series coil at the antenna feedpoint. If I'm doing the numbers right, an inductance of 1.5 mH at the feedpoint would cancel out the 186 ohm capacitive reactance almost exactly, leaving you with an 85-ohm resistive impedance or an SWR of around 1.7:1, which should be quite easy to drive.

This much inductance would change the feedpoint Z on 40 meters to around 50 + J60, so the SWR would be quite a bit more than 1:1... probably still within the range of your tuner, though.

Several ways to deal with this:

- Compromise, by using less series inductance... maybe 1 uH - this wouldn't lower the SWR on 15 meters as much, but would raise the SWR on 40 meters less. Calculate and fiddle a bit and you can probably find an inductance which will result in similar (and very comfortable) tuning SWRs on both bands.

- Instead of a plain L at the feedpoint, use a series LC - one which is series-resonant at 40 meters (thus adding no reactance and not changing the SWR at all) and has a net reactance of J186 at 15 meters.

All of these techniques will narrow the SWR bandwidth on 40 meters somewhat, but with care you should end up with an easily-tunable antenna.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

815. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-07 21:40:12 UTC
From: dplatt@radagast.org
Message-ID: <sin178-hqm.ln1@radagast.org>
Source record: 5216

In article <bgi178-ihf.ln1@radagast.org>,
Dave Platt <dplatt@radagast.org> wrote:

>If the antenna is close to 50 ohms resistive in the 40-meter band, and
>is around 85.26 - J 186.3 in the 15-meter band, then you could
>consider adding a series coil at the antenna feedpoint. If I'm doing
>the numbers right, an inductance of 1.5 mH at the feedpoint would
>cancel out the 186 ohm capacitive reactance almost exactly, leaving
>you with an 85-ohm resistive impedance or an SWR of around 1.7:1, which
>should be quite easy to drive.

... for which, please read "1.5 uH" - micro rather than milli :-(

Similar errors elsewhere in my posting.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

816. Re: 40/15M dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-08 01:43:37 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <inlp8b$1ab1$1@adenine.netfront.net>
Source record: 5217

On 04/07/2011 10:47 AM, Gary wrote:
> On Apr 7, 7:00 am, "carken...@juno.com"<carken...@juno.com> wrote:
>> Thank you for the response, folks. I appreciate it.
>>
>> ....and OUCH!!!.......
>>
>> The swr is higher than I had hoped for. I was hoping to use a duo-
>> band 15/40 meter wire dipole that could be fed directly with 50 ohm
>> coax connected to my Yaesu FT-450AT with internal tuner.
>>
>> But the FT 450 AT internal tuner will only match up to a 3:1 swr, so
>> that won't be "do-able".
>>
>> Thank you again......
>>
>> FjLee KA0FPJ
>> Denver CO
>
> See QST Dec. 1991 Hints and Kinks. The author cut the dipole for the
> low end of 40M~67' and used a Q section of RG59 cut for 21 MHZ to
> improve the match on 15M.
>
> Gary N4AST

A very simple solution in:

http://www.astrosurf.com/luxorion/qsl-g5rv-2.htm

Near the end, look for:

How to tune a 40-meter dipole antenna on 15 meters ?

Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

817. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-08 01:43:46 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <qOmdnRbiFYLP9QPQnZ2dnUVZ_uadnZ2d@bright.net>
Source record: 5218

This request from last year did not garner many specifics other than that one should be aware of disturbances from other stations when using most available instruments. One mention of the AIM 4170 was made by K6MHE and the use of a GR bridge was mentioned by several including Walt.

If might be interesting to several to learn what K1PO ended up using.

While I have a GR bridge and the CIA hand held meter, I have found the AIM 4170 to be ideal. It ends up being used for several tasks and has not been disturbed by RF from others when connected to an antenna. Its ability to characterize a crystal is great - especially to someone who has done it the old way. This evening, I confirmed that one can use it to characterize a piece of coax for velocity, Zo, and (matched) loss. . . . and it is very easy to store the Z vs. frequency for latter comparison. . .

Another data point. 73, Mac N8TT

"Peter O. Brackett" wrote in message
news:zfmdndKi0KQjJ-_RnZ2dnUVZ_qmdnZ2d@earthlink.com...

Antenna Newsgroup Denizens:

Apart from the professional 'lab grade' (and undoubtedly very expensive) devices made by the likes of Agilent, there are on the amateur market several antenna analyzers that are more reasonably priced.

I'm currently considering the purchase of such a device, and so...

I'm interested in hearing opinions, pro-con arguments, and/or receiving pointers to reviews of such devices.

All thoughts and comments will be appreciated, unbiased or not.

Thanks!

-- Pete k1po
-- Indialantic By-the-Sea, FL

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

818. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-08 08:01:39 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d9ec0e8$1$2440$65785112@news.neostrada.pl>
Source record: 5219

"John Smith" <assemblywizard@gmail.com> napisal w wiadomosci
news:inkr5c$i4d$1@dont-email.me...
> On 4/7/2011 10:00 AM, Szczepan Bialek wrote:
>
>> ...
>> Faraday said - no aether. He is always right.
>> S*
>
> And, I favor Einstein and the gravitational aether.
>
> However, I am hoping CERN, when in full swing, will start churning data
> which tosses the truth to one side, or another ...
>
> Often, a search for one thing/phenomenon/effect/affect/etc. will, quite
> surprisingly, answer a totally different set of questions in an obtuse
> angle to the intended direction of the original questions.
>
> Anyway, I can always hope ...

Be a chemist for a while. (Faraday was).

For a chemist everywhere is the saturated vapour, because everywhere are
solid bodies. Interstellar mediom = rare plasma and dust = saturated vapour
+ dust.
Such medium is ionised = contain ions and electrons.

Search for the answer if in such medium can propagate an electric waves.

You should find, quite surprisingly, that waves (vibrations) cause dust
coagulation (gravitation). Faraday predicted it.
S*

819. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-08 10:50:22 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <inmp9e$l69$1@ra.nrl.navy.mil>
Source record: 5220

On 04/07/2011 09:43 PM, J. C. Mc Laughlin wrote:
> Antenna Newsgroup Denizens:
>
> Apart from the professional 'lab grade' (and undoubtedly very expensive)
> devices made by the likes of Agilent, there are on the amateur market
> several antenna analyzers that are more reasonably priced.
>
> I'm currently considering the purchase of such a device, and so...
>
> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> pointers to reviews of such devices.
>
> All thoughts and comments will be appreciated, unbiased or not.
>
> Thanks!

Hello, and you might want to look here:

http://www.eham.net/reviews/products/31

Sincerely, and 73s from N4GGO,

--
J. B. Wood e-mail: arl_123234@hotmail.com

820. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-09 01:53:16 UTC
From: tom <news4792@taring.org>
Message-ID: <4d9fbc08$0$87588$8046368a@newsreader.iphouse.net>
Source record: 5221

On 4/8/2011 3:01 AM, Szczepan Bialek wrote:
>
> Be a chemist for a while. (Faraday was).
>
> For a chemist everywhere is the saturated vapour, because everywhere are
> solid bodies. Interstellar mediom = rare plasma and dust = saturated
> vapour + dust.
> Such medium is ionised = contain ions and electrons.
>
> Search for the answer if in such medium can propagate an electric waves.
>
> You should find, quite surprisingly, that waves (vibrations) cause dust
> coagulation (gravitation). Faraday predicted it.
> S*

Your insite is just astonishing. You notice all the details from all of
the masters and combine them into something that NO ONE CAN DENY!!!!!

You are the awesome collector of all knowledge (supplied by Google) that
makes it all clear.

tom
K0TAR

821. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-09 01:56:52 UTC
From: tom <news4792@taring.org>
Message-ID: <4d9fbce0$0$87588$8046368a@newsreader.iphouse.net>
Source record: 5222

```
On 4/8/2011 8:53 PM, tom wrote:
> On 4/8/2011 3:01 AM, Szczepan Bialek wrote:
>>
>> Be a chemist for a while. (Faraday was).
>>
>> For a chemist everywhere is the saturated vapour, because everywhere are
>> solid bodies. Interstellar mediom = rare plasma and dust = saturated
>> vapour + dust.
>> Such medium is ionised = contain ions and electrons.
>>
>> Search for the answer if in such medium can propagate an electric waves.
>>
>> You should find, quite surprisingly, that waves (vibrations) cause dust
>> coagulation (gravitation). Faraday predicted it.
>> S*
>
> Your insite is just astonishing. You notice all the details from all of
> the masters and combine them into something that NO ONE CAN DENY!!!!!
>
> You are the awesome collector of all knowledge (supplied by Google) that
> makes it all clear.
>
> tom
> K0TAR

Oops, insight.

tom
K0TAR
```

822. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-09 07:41:47 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4da00dc0$1$2484$65785112@news.neostrada.pl>
Source record: 5223

"tom" <news4792@taring.org> napisal w wiadomosci
news:4d9fbc08$0$87588$8046368a@newsreader.iphouse.net...
> On 4/8/2011 3:01 AM, Szczepan Bialek wrote:
>>
>> Be a chemist for a while. (Faraday was).
>>
>> For a chemist everywhere is the saturated vapour, because everywhere are
>> solid bodies. Interstellar mediom = rare plasma and dust = saturated
>> vapour + dust.
>> Such medium is ionised = contain ions and electrons.
>>
>> Search for the answer if in such medium can propagate an electric waves.
>>
>> You should find, quite surprisingly, that waves (vibrations) cause dust
>> coagulation (gravitation). Faraday predicted it.
>> S*
>
> Your insite is just astonishing. You notice all the details from all of
> the masters and combine them into something that NO ONE CAN DENY!!!!!
>
> You are the awesome collector of all knowledge (supplied by Google) that
> makes it all clear.

I find that Ampere, Faraday, Stokes and Tesla are to difficult for teaching
programs. But their ideas are right.

For students the best is the magnetic whirl and solid aether.

Do you think that Tesla was using the knowledge from the textbooks?
S*

823. Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-09 12:50:24 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4da05610$0$18241$4fafbaef@reader2.news.tin.it>
Source record: 5224

I would be interested to read opinions on the article "Gimme an X, Gimme an O"
published on December 2010 QST.

Thanks for feedback.

73

Tony I0JX
Rome, Italy

824. Re: Speed of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-09 17:25:58 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <6eh678-ne9.ln1@mail.specsol.com>
Source record: 5225

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> I find that Ampere, Faraday, Stokes and Tesla are to difficult for teaching
> programs. But their ideas are right.
>
> For students the best is the magnetic whirl and solid aether.
>
> Do you think that Tesla was using the knowledge from the textbooks?
> S*

What I think is that you are a babbling lunatic.

--
Jim Pennino

Remove .spam.sux to reply.

825. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-10 15:46:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <h5k3q6lfbs2nos1hfb3qd436cqef4lq85g@4ax.com>
Source record: 5226

On Sat, 9 Apr 2011 14:50:24 +0200, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>I would be interested to read opinions on the article "Gimme an X, Gimme an O"
>published on December 2010 QST.

Hi Antonio,

Why not give us your opinion first? (It might help us who don't have
access to the article to know what the opion is for.)

73's
Richard Clark, KB7QHC

826. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-10 17:04:38 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrniq3op6.n09.knock_yourself_out@shell.config.com>
Source record: 5227

On Sat, 9 Apr 2011 14:50:24 +0200, Antonio Vernucci wrote:
> I would be interested to read opinions on the article "Gimme an X,
> Gimme an O" published on December 2010 QST.

WHAT!!! Opinions on USENET? "Shirley, you jest." :-)

Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
* Killfiling google & XXXXbanter.com: jonz.net/ng.htm

827. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-10 19:21:05 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <insvv2$qo5$1@dont-email.me>
Source record: 5228

On 4/9/2011 5:50 AM, Antonio Vernucci wrote:
> I would be interested to read opinions on the article "Gimme an X, Gimme
> an O" published on December 2010 QST.
>
> Thanks for feedback.
>
> 73
>
> Tony I0JX
> Rome, Italy
>

This may help you in your endeavor, as this ground doesn't appear
fertile to your question:
http://kl7ex.info/page5.html

Regards,
JS

828. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-11 19:41:56 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4da35986$0$38640$4fafbaef@reader1.news.tin.it>
Source record: 5229

> This may help you in your endeavor, as this ground doesn't appear
> fertile to your question:
> http://kl7ex.info/page5.html
>
> Regards,
> JS

Thanks for info. Will keep tuned.

73
+
Tony I0JX

829. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-11 19:50:14 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4da35b79$0$38644$4fafbaef@reader1.news.tin.it>
Source record: 5230

> Why not give us your opinion first? (It might help us who don't have
> access to the article to know what the opion is for.)

I was hoping to find someome having thoroughly read the article and ready to
discuss his doubts.

Discussing the issues, starting from scratch, would lead to too long a debate.

73

Tony I0JX

830. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-11 22:06:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <our6q6l72frfmhsfpbr06hm4a0dqjmrih9@4ax.com>
Source record: 5231

On Mon, 11 Apr 2011 21:50:14 +0200, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>> Why not give us your opinion first? (It might help us who don't have
>> access to the article to know what the opion is for.)
>
>I was hoping to find someome having thoroughly read the article and ready to
>discuss his doubts.

Hi Tony,

To answer my question, it is not all that very difficult to give us
some "opinion-based" appraisal, the article was:
1. not particularly distinguished;
2. remarkably good;
3. remarkably bad.

However, if 2 or 3 is offered in response, then there is something to
remark. If it is remarkable, then there is some technical aspect to
discuss (which means we depart from opinion, unfortunately, for the
discussion to become rational).

I see no one offering a technically specific comment nor a general
opinion. By this benchmark, then, this article must not be
particularly distinguished or it is buried in an undistinguished
publication.

However, given Brett's link I would find nothing at that link to
debate either. On the positive side, that writing seems to rise above
undistinguished work, but if you are not going to commit yourself, or
provide deeper insight, then my observation is strained to give it
that much benefit.

>Discussing the issues, starting from scratch, would lead to too long a debate.

The dynamics of discussion here are self regulating. It would seem
the "debate," after six posting has yet to begin (and we are thus in a
long discussion about the shape of the debate table).

73's
Richard Clark, KB7QHC

831. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-11 22:31:31 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <invvg5sis1@dont-email.me>
Source record: 5232

On 4/11/2011 3:06 PM, Richard Clark wrote:

> ...
> 73's
> Richard Clark, KB7QHC

No problem!

I think everyone here realizes you could find your head if it was stuck
up your arse just far enough to keep you from sitting on the wad of lard!

ROFLOL

My father said, as many do, if you are going to be something, be the
best ... I can't fault you in this -- good job, well done, you are the
biggest imbecile and moron I have ever had the displeasure of reading,
the junk text you generate is nothing short of amazing ... enough to
fill dumpsters and keep garbage men employed though these tough economic
times ... a worthwhile service ... I suppose <yawn.>

At first you are funny, but then, my attention span, with clowns, is
rather short ...

Regards,
JS

832. Re: Your opinion on QST propagation article

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-12 17:02:24 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <io20j2isn1@dont-email.me>
Source record: 5233

On 4/11/2011 10:28 PM, Oliver wrote:
> On Apr 11, 10:31 pm, John Smith<assemblywiz...@gmail.com> wrote:
>
>>
>>
>> My father said, as many do, if you are going to be something, be the
>> best ...
>
> Too bad you didn't take his advice. Does he have any children he CAN
> be proud of?
>

Pull your member out of clarks' arse ... it is disgusting to watch ...

Or, to put it nicely, "Plonk you and clark!" ROFLOL

Regards,
JS

833. Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-12 21:13:10 UTC
From: amdx <amdx@knology.net>
Message-ID: <ac1e3$4da4bffd$18ec6dd7$19329@KNOLOGY.NET>
Source record: 5234
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

I have a 22 lb box of QEX magazines from June 1982 to 1994.
About 140 issues. I don't know if they are all there but most are.
If anyone is interested in them, $10 plus shipping from 32405.
Email me if interested.
Mikek

834. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-13 13:14:00 UTC
From: dave <dave@dave.dave>
Message-ID: <4da5a161$0$12494$bd467cd0@news.dslextreme.com>
Source record: 5235
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 04/12/2011 02:13 PM, amdx wrote:
> I have a 22 lb box of QEX magazines from June 1982 to 1994.
> About 140 issues. I don't know if they are all there but most are.
> If anyone is interested in them, $10 plus shipping from 32405.
> Email me if interested.
> Mikek
>
>

Not to pee on your Wheaties, but isn't QEX available online to ARRL
members? Great magazine. Way more meat than QST.

835. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-13 13:16:55 UTC
From: mikea <mikea@mikea.ath.cx>
Message-ID: <7bkg78-284.ln1@mikea.ath.cx>
Source record: 5236
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

In rec.radio.amateur.homebrew dave <dave@dave.dave> wrote:
> On 04/12/2011 02:13 PM, amdx wrote:
>> I have a 22 lb box of QEX magazines from June 1982 to 1994.
>> About 140 issues. I don't know if they are all there but most are.
>> If anyone is interested in them, $10 plus shipping from 32405.
>> Email me if interested.
>> Mikek
>>
>>
>
> Not to pee on your Wheaties, but isn't QEX available online to ARRL
> members? Great magazine. Way more meat than QST.

The _indices_ are; the articles seem always to be unavailable for
reasons that don't make sense.

--
Mike Andrews, W5EGO
mikea@mikea.ath.cx
Tired old sysadmin

836. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-13 23:12:47 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <io5ala$6ps$1@dont-email.me>
Source record: 5237
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

mikea wrote:
> In rec.radio.amateur.homebrew dave <dave@dave.dave> wrote:
>
>>On 04/12/2011 02:13 PM, amdx wrote:
>>
>>>I have a 22 lb box of QEX magazines from June 1982 to 1994.
>>>About 140 issues. I don't know if they are all there but most are.
>>>If anyone is interested in them, $10 plus shipping from 32405.
>>> Email me if interested.
>>> Mikek
>>>
>>>
>>
>>Not to pee on your Wheaties, but isn't QEX available online to ARRL
>>members? Great magazine. Way more meat than QST.
>
>
> The _indices_ are; the articles seem always to be unavailable for
> reasons that don't make sense.
>
It makes sense if you realize ARRL is a publishing house and not much else.
Why would they give their products away.

Henry WA0GOZ

837. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 00:18:14 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <io5egg$i7c$1@dont-email.me>
Source record: 5238
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4/13/2011 8:16 AM, mikea wrote:
> In rec.radio.amateur.homebrew dave<dave@dave.dave> wrote:
>> On 04/12/2011 02:13 PM, amdx wrote:
>>> I have a 22 lb box of QEX magazines from June 1982 to 1994.
>>> About 140 issues. I don't know if they are all there but most are.
>>> If anyone is interested in them, $10 plus shipping from 32405.
>>> Email me if interested.
>>> Mikek
>>>
>>>
>>
>> Not to pee on your Wheaties, but isn't QEX available online to ARRL
>> members? Great magazine. Way more meat than QST.
>
> The _indices_ are; the articles seem always to be unavailable for
> reasons that don't make sense.
>

From the ARRL Web site itself:

http://www.arrl.org/arrl-periodicals-archive-search

"About this database. This database contains an index of articles for QST from 1915 to the present, QEX from 1981 to the present, Ham Radio from 1968 to 1990 and NCJ from 1973 to the present. (Note: Beginning in 1998, each issue of QEX covers two months. This index shows the first month. For example, the index shows the January/February 1998 issue of QEX as Jan 1998 QEX.)"

So, the index covers anything for which I'd be interested. But I am more interested in obtaining past articles. Then there is this:

"QST Archive for Members Only - ARRL Members can access the QST magazine archive online, from December 1915 through December 2007."

Also:

"ARRL Periodicals on CD-ROM - Recent volumes of QST magazine and back issues of QEX, NCJ and Ham Radio magazines are available on CD-ROM."

I guess this means that, if you want to get articles later than 2007, then you must buy the CD.

Thanks for spurring my research on this. Now I will re-evaluate the importance of remaining a member.

John

838. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 00:24:18 UTC
From: dave <dave@dave.dave>
Message-ID: <4da63e7e$0$12458$bd467cd0@news.dslextreme.com>
Source record: 5239
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

```
On 04/13/2011 05:18 PM, John KD5YI wrote:
> On 4/13/2011 8:16 AM, mikea wrote:
>> In rec.radio.amateur.homebrew dave<dave@dave.dave> wrote:
>>> On 04/12/2011 02:13 PM, amdx wrote:
>>>> I have a 22 lb box of QEX magazines from June 1982 to 1994.
>>>> About 140 issues. I don't know if they are all there but most are.
>>>> If anyone is interested in them, $10 plus shipping from 32405.
>>>> Email me if interested.
>>>> Mikek
>>>>
>>>>
>>>
>>> Not to pee on your Wheaties, but isn't QEX available online to ARRL
>>> members? Great magazine. Way more meat than QST.
>>
>> The _indices_ are; the articles seem always to be unavailable for
>> reasons that don't make sense.
>>
>
> From the ARRL Web site itself:
>
> http://www.arrl.org/arrl-periodicals-archive-search
>
> "About this database. This database contains an index of articles for
> QST from 1915 to the present, QEX from 1981 to the present, Ham Radio
> from 1968 to 1990 and NCJ from 1973 to the present. (Note: Beginning in
> 1998, each issue of QEX covers two months. This index shows the first
> month. For example, the index shows the January/February 1998 issue of
> QEX as Jan 1998 QEX.)"
>
> So, the index covers anything for which I'd be interested. But I am more
> interested in obtaining past articles. Then there is this:
>
> "QST Archive for Members Only - ARRL Members can access the QST magazine
> archive online, from December 1915 through December 2007."
>
> Also:
>
> "ARRL Periodicals on CD-ROM - Recent volumes of QST magazine and back
> issues of QEX, NCJ and Ham Radio magazines are available on CD-ROM."
>
> I guess this means that, if you want to get articles later than 2007,
> then you must buy the CD.
```

>
> Thanks for spurring my research on this. Now I will re-evaluate the
> importance of remaining a member.
>
> John

I give them money to fight BPL. The rest is ad-supported gravy.

839. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 01:01:02 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <io5h0n$d1t$1@dont-email.me>
Source record: 5240
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

```
On 4/13/2011 7:24 PM, dave wrote:
> On 04/13/2011 05:18 PM, John KD5YI wrote:
>> On 4/13/2011 8:16 AM, mikea wrote:
>>> In rec.radio.amateur.homebrew dave<dave@dave.dave> wrote:
>>>> On 04/12/2011 02:13 PM, amdx wrote:
>>>>> I have a 22 lb box of QEX magazines from June 1982 to 1994.
>>>>> About 140 issues. I don't know if they are all there but most are.
>>>>> If anyone is interested in them, $10 plus shipping from 32405.
>>>>> Email me if interested.
>>>>> Mikek
>>>>>
>>>>>
>>>>
>>>> Not to pee on your Wheaties, but isn't QEX available online to ARRL
>>>> members? Great magazine. Way more meat than QST.
>>>
>>> The _indices_ are; the articles seem always to be unavailable for
>>> reasons that don't make sense.
>>>
>>
>> From the ARRL Web site itself:
>>
>> http://www.arrl.org/arrl-periodicals-archive-search
>>
>> "About this database. This database contains an index of articles for
>> QST from 1915 to the present, QEX from 1981 to the present, Ham Radio
>> from 1968 to 1990 and NCJ from 1973 to the present. (Note: Beginning in
>> 1998, each issue of QEX covers two months. This index shows the first
>> month. For example, the index shows the January/February 1998 issue of
>> QEX as Jan 1998 QEX.)"
>>
>> So, the index covers anything for which I'd be interested. But I am more
>> interested in obtaining past articles. Then there is this:
>>
>> "QST Archive for Members Only - ARRL Members can access the QST magazine
>> archive online, from December 1915 through December 2007."
>>
>> Also:
>>
>> "ARRL Periodicals on CD-ROM - Recent volumes of QST magazine and back
>> issues of QEX, NCJ and Ham Radio magazines are available on CD-ROM."
>>
>> I guess this means that, if you want to get articles later than 2007,
```

>> then you must buy the CD.
>>
>> Thanks for spurring my research on this. Now I will re-evaluate the
>> importance of remaining a member.
>>
>> John
>
> I give them money to fight BPL. The rest is ad-supported gravy.

I kinda thought that was what I was doing by being a member.

I've been paying:

ARRL membership $39
QEX for members $24

Total $63

If I drop my ARRL membership the cost would be:

ARRL membership $00
QEX non-member $36

Total $36

Almost a 43% reduction in cost to get the cream of publications. Of course, I'd be giving up QST. Somehow, that doesn't bother me too much.

John

840. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 03:16:45 UTC
From: Scott <acepilotREMOVE@bloomer.net>
Message-ID: <Vu2dnd5iHtCC-jvQnZ2dnUVZ_smdnZ2d@bright.net>
Source record: 5241
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4-14-2011 01:01, John KD5YI wrote:

>
> I kinda thought that was what I was doing by being a member.
>
> I've been paying:
>
> ARRL membership $39
> QEX for members $24
> ------
> Total $63
>
> If I drop my ARRL membership the cost would be:
>
> ARRL membership $00
> QEX non-member $36
> --------
> Total $36
>
> Almost a 43% reduction in cost to get the cream of publications. Of
> course, I'd be giving up QST. Somehow, that doesn't bother me too much.
>
> John

I re-joined ARRL a few years back after having let my membership lapse because of what I considered a lack of technical articles in QST. I was primarily a member to get QST. After my membership expired again, I got boatloads of mailings from ARRL, begging me to come back and even offering a choice of a book to get me to come back. I mailed back their letters with a hand written note saying I wasn't interested. They asked me why. I said QST isn't nearly technical enough for me anymore. They suggested I get QEX. So I made a "counter-offer"...I asked them to substitute QEX for QST. They basically laughed and said they couldn't do that. Seems it would have saved them some money as QEX only comes out 6 timers per year versus 12 for QST. So, now they get NO money from me...

N0EDV

841. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 03:28:30 UTC
From: arthrnyork@webtv.net
Message-ID: <b145548d-095a-448d-92f7-892632079ddb@w9g2000prg.googlegroups.com>
Source record: 5242
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On Apr 13, 11:16 pm, Scott <acepilotREM...@bloomer.net> wrote:
> On 4-14-2011 01:01, John KD5YI wrote:
>
>
>
>
>
>
>
> > I kinda thought that was what I was doing by being a member.
>
> > I've been paying:
>
> > ARRL membership $39
> > QEX for members $24
> > ------
> > Total $63
>
> > If I drop my ARRL membership the cost would be:
>
> > ARRL membership $00
> > QEX non-member $36
> > --------
> > Total $36
>
> > Almost a 43% reduction in cost to get the cream of publications. Of
> > course, I'd be giving up QST. Somehow, that doesn't bother me too much.
>
> > John
>
> I re-joined ARRL a few years back after having let my membership lapse
> because of what I considered a lack of technical articles in QST. I was
> primarily a member to get QST. After my membership expired again, I got
> boatloads of mailings from ARRL, begging me to come back and even
> offering a choice of a book to get me to come back. I mailed back their
> letters with a hand written note saying I wasn't interested. They asked
> me why. I said QST isn't nearly technical enough for me anymore. They
> suggested I get QEX. So I made a "counter-offer"...I asked them to
> substitute QEX for QST. They basically laughed and said they couldn't
> do that. Seems it would have saved them some money as QEX only comes
> out 6 timers per year versus 12 for QST. So, now they get NO money from
> me...
>

> N0EDV- Hide quoted text -
>
> - Show quoted text -

That's what libraries were invented for : long time ago . And free .

842. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 12:49:55 UTC
From: Joe from Kokomo <joe@indy.net>
Message-ID: <io6qhjefs3@dont-email.me>
Source record: 5243
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4/13/2011 9:01 PM, John KD5YI wrote:

> I've been paying:
>
> ARRL membership $39
> QEX for members $24
> ------
> Total $63
>
> If I drop my ARRL membership the cost would be:
>
> ARRL membership $00
> QEX non-member $36
> --------
> Total $36
>
> Almost a 43% reduction in cost to get the cream of publications. Of
> course, I'd be giving up QST. Somehow, that doesn't bother me too much.
>
> John

I would respectfully suggest that you are missing the big picture. It's
not just the magazine(s).

Like them or not, the ARRL is the ONLY organization that supports ham
radio on a national level, going to bat for us before Congress and the FCC.

73,
Joe

843. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 12:51:05 UTC
From: Joe from Kokomo <joe@indy.net>
Message-ID: <io6qjpefs4@dont-email.me>
Source record: 5244
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4/13/2011 11:16 PM, Scott wrote:

> I re-joined ARRL a few years back after having let my membership lapse
> because of what I considered a lack of technical articles in QST. I was
> primarily a member to get QST. After my membership expired again, I got
> boatloads of mailings from ARRL, begging me to come back and even
> offering a choice of a book to get me to come back. I mailed back their
> letters with a hand written note saying I wasn't interested. They asked
> me why. I said QST isn't nearly technical enough for me anymore. They
> suggested I get QEX. So I made a "counter-offer"...I asked them to
> substitute QEX for QST. They basically laughed and said they couldn't do
> that. Seems it would have saved them some money as QEX only comes out 6
> timers per year versus 12 for QST. So, now they get NO money from me...
>
> N0EDV

I would respectfully suggest that you are missing the big picture. It's
not just the magazine(s).

Like them or not, the ARRL is the ONLY organization that supports ham
radio on a national level, going to bat for us before Congress and the FCC.

73,
Joe

844. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 13:22:19 UTC
From: atec77 <atec77@hotmail.com>
Message-ID: <io6seeide3@dont-email.me>
Source record: 5245
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 14/04/2011 10:51 PM, Joe from Kokomo wrote:
> On 4/13/2011 11:16 PM, Scott wrote:
>
>> I re-joined ARRL a few years back after having let my membership lapse
>> because of what I considered a lack of technical articles in QST. I was
>> primarily a member to get QST. After my membership expired again, I got
>> boatloads of mailings from ARRL, begging me to come back and even
>> offering a choice of a book to get me to come back. I mailed back their
>> letters with a hand written note saying I wasn't interested. They asked
>> me why. I said QST isn't nearly technical enough for me anymore. They
>> suggested I get QEX. So I made a "counter-offer"...I asked them to
>> substitute QEX for QST. They basically laughed and said they couldn't do
>> that. Seems it would have saved them some money as QEX only comes out 6
>> timers per year versus 12 for QST. So, now they get NO money from me...
>>
>> N0EDV
>
> I would respectfully suggest that you are missing the big picture. It's
> not just the magazine(s).
>
> Like them or not, the ARRL is the ONLY organization that supports ham
> radio on a national level, going to bat for us before Congress and the FCC.
>
> 73,
> Joe
>
Here in Au the number of members of the representative body (WIA) is
about 1/3 or less , having really bad representation which is expensive
is worse than having none at all

--
X-No-Archive: Yes

845. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 15:02:30 UTC
From: dave <dave@dave.dave>
Message-ID: <4da70c50$0$12450$bd467cd0@news.dslextreme.com>
Source record: 5246
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 04/13/2011 06:01 PM, John KD5YI wrote:
> On 4/13/2011 7:24 PM, dave wrote:

>>
>> I give them money to fight BPL. The rest is ad-supported gravy.
>
> I kinda thought that was what I was doing by being a member.
>
> I've been paying:
>
> ARRL membership $39
> QEX for members $24
> ------
> Total $63
>
> If I drop my ARRL membership the cost would be:
>
> ARRL membership $00
> QEX non-member $36
> --------
> Total $36
>
> Almost a 43% reduction in cost to get the cream of publications. Of
> course, I'd be giving up QST. Somehow, that doesn't bother me too much.
>
> John

I like the little ads in back. It's interesting how they market some of
those radios. It reminds me of Sansui stereos.

846. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 15:05:29 UTC
From: dave <dave@dave.dave>
Message-ID: <4da70d03$0$12450$bd467cd0@news.dslextreme.com>
Source record: 5247
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 04/13/2011 08:16 PM, Scott wrote:

> I re-joined ARRL a few years back after having let my membership lapse
> because of what I considered a lack of technical articles in QST. I was
> primarily a member to get QST. After my membership expired again, I got
> boatloads of mailings from ARRL, begging me to come back and even
> offering a choice of a book to get me to come back. I mailed back their
> letters with a hand written note saying I wasn't interested. They asked
> me why. I said QST isn't nearly technical enough for me anymore. They
> suggested I get QEX. So I made a "counter-offer"...I asked them to
> substitute QEX for QST. They basically laughed and said they couldn't do
> that. Seems it would have saved them some money as QEX only comes out 6
> timers per year versus 12 for QST. So, now they get NO money from me...
>
> N0EDV

QST is about the ads. QEX appeals to people who are pretty immune to ads.

847. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 17:56:52 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <io7chg$h3c$1@dont-email.me>
Source record: 5248
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4/14/2011 7:49 AM, Joe from Kokomo wrote:
> On 4/13/2011 9:01 PM, John KD5YI wrote:
>
>> I've been paying:
>>
>> ARRL membership $39
>> QEX for members $24
>> ------
>> Total $63
>>
>> If I drop my ARRL membership the cost would be:
>>
>> ARRL membership $00
>> QEX non-member $36
>> --------
>> Total $36
>>
>> Almost a 43% reduction in cost to get the cream of publications. Of
>> course, I'd be giving up QST. Somehow, that doesn't bother me too much.
>>
>> John
>
> I would respectfully suggest that you are missing the big picture. It's
> not just the magazine(s).

Well, maybe. I think that the big picture depends on the desires of the
observer.

> Like them or not, the ARRL is the ONLY organization that supports ham
> radio on a national level, going to bat for us before Congress and the FCC.
>
> 73,
> Joe

It is not that I do not like the ARRL. I've been a member for many years.

But, just being a member doesn't pay for that support. Notice from the
cost of membership shown on the ARRL site that only $8 per year is left
over after paying for QST. I'd bet that that $8 barely pays them to
maintain their records and Web site. What they apparently depend on for
money to represent us in Washington is donations. Along with volunteers,
perhaps.

So, does this mean that those of us who do not send in donations are
missing the big picture?

73,
John

848. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 18:05:24 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <io7d1e$i4a$1@dont-email.me>
Source record: 5249
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

```
On 4/14/2011 12:56 PM, John KD5YI wrote:
> On 4/14/2011 7:49 AM, Joe from Kokomo wrote:
>> On 4/13/2011 9:01 PM, John KD5YI wrote:
>>
>>> I've been paying:
>>>
>>> ARRL membership $39
>>> QEX for members $24
>>> ------
>>> Total $63
>>>
>>> If I drop my ARRL membership the cost would be:
>>>
>>> ARRL membership $00
>>> QEX non-member $36
>>> --------
>>> Total $36
>>>
>>> Almost a 43% reduction in cost to get the cream of publications. Of
>>> course, I'd be giving up QST. Somehow, that doesn't bother me too much.
>>>
>>> John
>>
>> I would respectfully suggest that you are missing the big picture. It's
>> not just the magazine(s).
>
> Well, maybe. I think that the big picture depends on the desires of the
> observer.
>
>> Like them or not, the ARRL is the ONLY organization that supports ham
>> radio on a national level, going to bat for us before Congress and the
>> FCC.
>>
>> 73,
>> Joe
>
> It is not that I do not like the ARRL. I've been a member for many years.
>
> But, just being a member doesn't pay for that support. Notice from the
> cost of membership shown on the ARRL site that only $8 per year is left
> over after paying for QST. I'd bet that that $8 barely pays them to
> maintain their records and Web site. What they apparently depend on for
> money to represent us in Washington is donations. Along with volunteers,
```

> perhaps.
>
> So, does this mean that those of us who do not send in donations are
> missing the big picture?
>
> 73,
> John

Well, I overlooked the revenue generated by ads in QST. It is probably
true that a greater membership means a greater magazine circulation
which means ads can garner more because they reach a greater audience.

I just wanted that on record to show I am not advocating discontinuing
membership.

73,
John

849. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 22:18:05 UTC
From: Scott <acepilotREMOVE@bloomer.net>
Message-ID: <1KadnQfnyKwD7zrQnZ2dnUVZ_jmdnZ2d@bright.net>
Source record: 5250
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4-14-2011 12:51, Joe from Kokomo wrote:
> On 4/13/2011 11:16 PM, Scott wrote:
>
>> I re-joined ARRL a few years back after having let my membership lapse
>> because of what I considered a lack of technical articles in QST. I was
>> primarily a member to get QST. After my membership expired again, I got
>> boatloads of mailings from ARRL, begging me to come back and even
>> offering a choice of a book to get me to come back. I mailed back their
>> letters with a hand written note saying I wasn't interested. They asked
>> me why. I said QST isn't nearly technical enough for me anymore. They
>> suggested I get QEX. So I made a "counter-offer"...I asked them to
>> substitute QEX for QST. They basically laughed and said they couldn't do
>> that. Seems it would have saved them some money as QEX only comes out 6
>> timers per year versus 12 for QST. So, now they get NO money from me...
>>
>> N0EDV
>
> I would respectfully suggest that you are missing the big picture. It's
> not just the magazine(s).
>
> Like them or not, the ARRL is the ONLY organization that supports ham
> radio on a national level, going to bat for us before Congress and the FCC.
>
> 73,
> Joe
>

Yes, I understand that very well. However, they should have more money
to spend to fight for ham radio if they would let me substitute the 6
issues per year of QEX versus the 12 issues of QST.

N0EDV

850. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-14 23:24:38 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <io7vn1$bp4$1@news.jpl.nasa.gov>
Source record: 5151

Scott wrote:
> On 4-14-2011 12:51, Joe from Kokomo wrote:
>> On 4/13/2011 11:16 PM, Scott wrote:
>>
>>> I re-joined ARRL a few years back after having let my membership lapse
>>> because of what I considered a lack of technical articles in QST. I was
>>> primarily a member to get QST. After my membership expired again, I got
>>> boatloads of mailings from ARRL, begging me to come back and even
>>> offering a choice of a book to get me to come back. I mailed back their
>>> letters with a hand written note saying I wasn't interested. They asked
>>> me why. I said QST isn't nearly technical enough for me anymore. They
>>> suggested I get QEX. So I made a "counter-offer"...I asked them to
>>> substitute QEX for QST. They basically laughed and said they couldn't do
>>> that. Seems it would have saved them some money as QEX only comes out 6
>>> timers per year versus 12 for QST. So, now they get NO money from me...
>>>
>>> N0EDV
>>
>> I would respectfully suggest that you are missing the big picture. It's
>> not just the magazine(s).
>>
>> Like them or not, the ARRL is the ONLY organization that supports ham
>> radio on a national level, going to bat for us before Congress and the
>> FCC.
>>
>> 73,
>> Joe
>>
>
> Yes, I understand that very well. However, they should have more money
> to spend to fight for ham radio if they would let me substitute the 6
> issues per year of QEX versus the 12 issues of QST.
>
> N0EDV

Not necessarily..

Advertising runs as "cost per thousand" (aka CPM) based on the
circulation of the magazine. The CPM for QST and QEX is probably pretty
close (same target market and all that).. You could probably find it on
the rate card which is on the ARRL website somewhere.

Let's say the rate is $1/thousand..

So, for a given size ad, QST may have, say, 150,000 copies, and QEX may have 1500. So ARRL would get $1.50 for an ad in QEX, and $150 for the same ad in QST.

Printing costs are pretty much the same, per copy, per page. However, the other production costs (editing, copy, pre-press) are fixed, regardless of how many copies you print. So for QST, the "per page per copy" cost is a lot less.

QST is probably MUCH more profitable than QEX.. lower cost to print a copy, more revenue to collect per copy.

For reference, the QEX ad rates are $155 for 1/6th page up to $733 full page. NCJ is 412/page, 78/sixth

I couldn't find circulation numbers for any of them, and no published rate card for QST. (I assume QST has lots of "multipage discounts", for instance).

851. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-15 01:47:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4da7a394$0$6702$8046368a@newsreader.iphouse.net>
Source record: 5152
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4/14/2011 5:18 PM, Scott wrote:
> On 4-14-2011 12:51, Joe from Kokomo wrote:
>>
>> I would respectfully suggest that you are missing the big picture. It's
>> not just the magazine(s).
>>
>> Like them or not, the ARRL is the ONLY organization that supports ham
>> radio on a national level, going to bat for us before Congress and the
>> FCC.
>>
>> 73,
>> Joe
>>
>
> Yes, I understand that very well. However, they should have more money
> to spend to fight for ham radio if they would let me substitute the 6
> issues per year of QEX versus the 12 issues of QST.
>
> N0EDV

I'm basing this opinion on the ARRL budgets that were published in QST about 20 years ago. They currently (still) claim they are there for mainly 2 things, protecting our rights and privileges as operators and adding new operators through education and other methods. Unless they have gotten rid of all the bits they used to have that they didn't need, they are still spending between 2 and 5% of the money they collect on what's supposed to be the main goal.

Where does all the rest go? Read the budgets if they still make them available.

Charlatans then, are they now? I don't know. And don't care. They lost me.

tom
K0TAR

852. Re: PV Inverter interferance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-15 05:06:23 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <0ec31ad0-4cec-44ce-bc9f-3a86a5a99a88@r19g2000prm.googlegroups.com>
Source record: 5153
Body handling: HTML body converted to readable text

On Apr 6, 5:25 am, "Peter" wrote:
> I was wondering if anyone has experience interference from Solar Power
> Inverters.
> I'm currently access various inverters and noticed that the Kaco
> Powador-4202 uses a high frequency isolation transformer, so I'm
> particularly interested in experience with this model, but also keen to hear
> general experience with these domestic solar power systems.
>
> http://kaco-newenergy.de/en/site/312...te/details.xml
>
> Regards
>
> Peter
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

I think if you have a noisy one, you have reason to complain -- and
get satisfaction. I used to work in a US Navy office building.
Although "domestic" doesn't apply, it did have a large PV array
installed. After it was running, I took a portable AM radio on the
roof and I had to get within inches of the array to get any hash at
all. I swept the dial to be sure; also walked around to check several
places. Sorry, the controller equipment was locked away. No close-up
test possible.

By contrast, I use a small switching PS for my 220 handheld on our
local Net Night. If I don't unplug it, I'm reminded by my S-meter as
soon as we move to HF. It is one noisy, little bugger.

"Sal"
(KD6VKW)

853. hotgrils,wallpaper,photos,video download

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-15 11:15:06 UTC
From: savitha <ph77942@gmail.com>
Message-ID: <5d8dde5e-fb04-4960-9efb-b2127b7ce038@w7g2000pre.googlegroups.com>
Source record: 5154

http://karan-worldbankgroup.blogspot.com/
http://forex-nature01-karan.blogspot.com/
http://karan-nanotechnology.blogspot.com/
http://karan-dnasequencing.blogspot.com/
http://karan-origins.blogspot.com/

854. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-15 11:36:43 UTC
From: Gaius <bin@127.0.0.1>
Message-ID: <MPG.28123e228b1078799896a2@news.zen.co.uk>
Source record: 5155
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

In article <4da7a394$0$6702$8046368a@newsreader.iphouse.net>, news4792
@taring.org says...
>
> I'm basing this opinion on the ARRL budgets that were published in QST
> about 20 years ago. They currently (still) claim they are there for
> mainly 2 things, protecting our rights and privileges as operators and
> adding new operators through education and other methods. Unless they
> have gotten rid of all the bits they used to have that they didn't need,
> they are still spending between 2 and 5% of the money they collect on
> what's supposed to be the main goal.
>
> Where does all the rest go? Read the budgets if they still make them
> available.
>
> Charlatans then, are they now? I don't know. And don't care. They
> lost me.
>
> tom
> K0TAR

Pretty well identical with the UK situation. The RSGB have lost many,
many members for these reasons - including me.

855. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-15 12:27:27 UTC
From: Joe from Kokomo <joe@indy.net>
Message-ID: <io9djf$7dc$2@dont-email.me>
Source record: 5156
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

> On 4/14/2011 5:18 PM, Scott wrote:
>> On 4-14-2011 12:51, Joe from Kokomo wrote:
>>>
>>> I would respectfully suggest that you are missing the big picture. It's
>>> not just the magazine(s).
>>>
>>> Like them or not, the ARRL is the ONLY organization that supports ham
>>> radio on a national level, going to bat for us before Congress and the
>>> FCC.
>>>
>>> 73,
>>> Joe
>>>
>>
>> Yes, I understand that very well. However, they should have more money
>> to spend to fight for ham radio if they would let me substitute the 6
>> issues per year of QEX versus the 12 issues of QST.
>>
>> N0EDV

On 4/14/2011 9:47 PM, tom wrote:

> I'm basing this opinion on the ARRL budgets that were published in QST
> about 20 years ago. They currently (still) claim they are there for
> mainly 2 things, protecting our rights and privileges as operators and
> adding new operators through education and other methods. Unless they
> have gotten rid of all the bits they used to have that they didn't need,
> they are still spending between 2 and 5% of the money they collect on
> what's supposed to be the main goal.
>
> Where does all the rest go? Read the budgets if they still make them
> available.
>
> Charlatans then, are they now? I don't know. And don't care. They lost me.
>
> tom
> K0TAR

tom, just my personal opinion, but too bad you left the ARRL and too bad
you don't care.

I don't know about your "2 to 5%" figure, but even if it is true, it's
exactly 2 to 5% more than any other organization is spending to go to
bat for ham radio...and IMHO, we NEED (and should support) a national

organization.

73,
Joe

856. Several Saints 12-5-06 at 12:17 P.M.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-15 13:31:29 UTC
From: norttene@yahoo.com
Message-ID: <b1b9da5a-d389-43b5-b8f0-cf4a18bf315c@l30g2000vbn.googlegroups.com>
Source record: 5157

Several Saints say,
"You live in a time wherein it is of
Great Importance that many people
understand that the Gift of human living
is a Gift far greater than it is often
understood to be. So much is taken for
granted and even passed over, not seeing
or not realizing the value of what life
was created to be, to have, to follow and
to one day be known for."

REVELATION DELIVERED THROUGH FRANCES M. KLUG
ON DECEMBER 5,2006 AT 12:17 P.M.

SEVERAL SAINTS

"There are Several of Us with this
little one as there so often is, but We are
making a point of it today because of all
she has endured up to this time.

You live in a time wherein it is of
Great Importance that many people
understand that the Gift of human living
is a Gift far greater than it is often
understood to be. So much is taken for
granted and even passed over, not seeing
or not realizing the value of what life
was created to be, to have, to follow and
to one day be known for.

There is so much We want to talk
about through this little one because she
is Our Method, Our Means, and Our Love
to be able to speak through her and have
her repeat What We Will others to hear,
or to see, or to acknowledge, or to learn
about.

Thank you for taking My Notes,
because They were meant to not awaken
you, but alert you to the Importance of
Those of Us Who surround this little one
more times, more ways, than it is ever
understood to be."

Saint Joseph's Hill Of Hope
Brea, California 92822 U.S.A.
www.TheMiracleOfStJoseph.org
All Revelations are delivered spontaneously
and continuously as witnessed by all those
present at the time.
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857. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-15 22:41:18 UTC
From: Scott <acepilotREMOVE@bloomer.net>
Message-ID: <ZMWdnR3xrKgSVDXQnZ2dnUVZ_h-dnZ2d@bright.net>
Source record: 5158
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4-15-2011 12:27, Joe from Kokomo wrote:

>
> tom, just my personal opinion, but too bad you left the ARRL and too bad
> you don't care.
>
> I don't know about your "2 to 5%" figure, but even if it is true, it's
> exactly 2 to 5% more than any other organization is spending to go to
> bat for ham radio...and IMHO, we NEED (and should support) a national
> organization.
>
> 73,
> Joe

Why? If every ham just wrote to their elected officials (for the cost
of a stamp, or free by email), they would get the message just as well,
if not better than, if they got 1 letter or a personal visit from the
ARRL "lobbyist".

858. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 00:31:31 UTC
From: Joe from Kokomo <joe@indy.net>
Message-ID: <ioao14bhn3@dont-email.me>
Source record: 5159
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

> On 4-15-2011 12:27, Joe from Kokomo wrote:
>
>>
>> tom, just my personal opinion, but too bad you left the ARRL and too bad
>> you don't care.
>>
>> I don't know about your "2 to 5%" figure, but even if it is true, it's
>> exactly 2 to 5% more than any other organization is spending to go to
>> bat for ham radio...and IMHO, we NEED (and should support) a national
>> organization.
>>
>> 73,
>> Joe

On 4/15/2011 6:41 PM, Scott wrote:

> Why? If every ham just wrote to their elected officials (for the cost of
> a stamp, or free by email), they would get the message just as well, if
> not better than, if they got 1 letter or a personal visit from the ARRL
> "lobbyist".

Just my personal opinion, but I believe it is quite naive to think that
if "every ham just wrote". Extremely unlikely...and oh, if not the ARRL,
just who do you think is going to tell the hams to write and what to
write about?

Finally, it's quite naive to think that a national lobbying organization
is not helpful -- just look at how successful the NRA is.

859. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 00:40:21 UTC
From: Kenneth Scharf <wa2mze@bellsouth.net>
Message-ID: <ioaoho$d8m$1@dont-email.me>
Source record: 5160
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 04/15/2011 08:31 PM, Joe from Kokomo wrote:
>
>> On 4-15-2011 12:27, Joe from Kokomo wrote:
>>
>>>
>>> tom, just my personal opinion, but too bad you left the ARRL and too bad
>>> you don't care.
>>>
>>> I don't know about your "2 to 5%" figure, but even if it is true, it's
>>> exactly 2 to 5% more than any other organization is spending to go to
>>> bat for ham radio...and IMHO, we NEED (and should support) a national
>>> organization.
>>>
>>> 73,
>>> Joe
>
> On 4/15/2011 6:41 PM, Scott wrote:
>
>> Why? If every ham just wrote to their elected officials (for the cost of
>> a stamp, or free by email), they would get the message just as well, if
>> not better than, if they got 1 letter or a personal visit from the ARRL
>> "lobbyist".
>
> Just my personal opinion, but I believe it is quite naive to think that
> if "every ham just wrote". Extremely unlikely...and oh, if not the ARRL,
> just who do you think is going to tell the hams to write and what to
> write about?
>
> Finally, it's quite naive to think that a national lobbying organization
> is not helpful -- just look at how successful the NRA is.

All of you are also forgetting that the ARRL (for better or worse) is now the 'back bone' of the system that handles testing for ham licenses. Without them it would be almost impossible to find where you can locally take the test to apply for or upgrade your ham ticket. The ARRL also publishes most of the test guide material (though I would be surprised if it wasn't also available on line). Finally they have a good line of excellent technical publications on radio and electronics technology.

Also they DO offer membership without QST, for additional members of a family. Maybe the price of that will give you an idea of what they think the membership itself is worth.

860. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 00:46:12 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ioaosvcfp1@dont-email.me>
Source record: 5161
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

```
On 4/15/2011 7:40 PM, Kenneth Scharf wrote:
> On 04/15/2011 08:31 PM, Joe from Kokomo wrote:
>>
>>> On 4-15-2011 12:27, Joe from Kokomo wrote:
>>>
>>>>
>>>> tom, just my personal opinion, but too bad you left the ARRL and too
>>>> bad
>>>> you don't care.
>>>>
>>>> I don't know about your "2 to 5%" figure, but even if it is true, it's
>>>> exactly 2 to 5% more than any other organization is spending to go to
>>>> bat for ham radio...and IMHO, we NEED (and should support) a national
>>>> organization.
>>>>
>>>> 73,
>>>> Joe
>>
>> On 4/15/2011 6:41 PM, Scott wrote:
>>
>>> Why? If every ham just wrote to their elected officials (for the cost of
>>> a stamp, or free by email), they would get the message just as well, if
>>> not better than, if they got 1 letter or a personal visit from the ARRL
>>> "lobbyist".
>>
>> Just my personal opinion, but I believe it is quite naive to think that
>> if "every ham just wrote". Extremely unlikely...and oh, if not the ARRL,
>> just who do you think is going to tell the hams to write and what to
>> write about?
>>
>> Finally, it's quite naive to think that a national lobbying organization
>> is not helpful -- just look at how successful the NRA is.
> All of you are also forgetting that the ARRL (for better or worse) is
> now the 'back bone' of the system that handles testing for ham licenses.
> Without them it would be almost impossible to find where you can locally
> take the test to apply for or upgrade your ham ticket. The ARRL also
> publishes most of the test guide material (though I would be surprised
> if it wasn't also available on line). Finally they have a good line of
> excellent technical publications on radio and electronics technology.
>
> Also they DO offer membership without QST, for additional members of a
> family. Maybe the price of that will give you an idea of what they think
> the membership itself is worth.
```

Yes, and the blind can get a membership without QST for $8, same as a family member without QST. That was where I got my number from in another post in this thread.

Again, I am not suggesting anyone give up their membership in the ARRL.

861. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 01:47:58 UTC
From: tom <news4792@taring.org>
Message-ID: <4da8f54b$0$87584$8046368a@newsreader.iphouse.net>
Source record: 5162
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4/15/2011 7:27 AM, Joe from Kokomo wrote:
>
> tom, just my personal opinion, but too bad you left the ARRL and too bad
> you don't care.
>
> I don't know about your "2 to 5%" figure, but even if it is true, it's
> exactly 2 to 5% more than any other organization is spending to go to
> bat for ham radio...and IMHO, we NEED (and should support) a national
> organization.
>
> 73,
> Joe

The ARRL seems to have little to do with the most important part of
getting new hams, licensing.

The National VEC page, http://www.ncvec.org, apparently doesn't even
acknowledge the ARRL.

You have to search the site and get to Question Pool 3 to find the first
hint of the ARRL, and it's an email address for WY1O, who seems quite
dedicated and appears several more times. And he's all there is.

So much for making new hams.

tom
K0TAR

862. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 03:13:06 UTC
From: Scott <acepilotREMOVE@bloomer.net>
Message-ID: <ysSdne2O6ZHeIDTQnZ2dnUVZ_gidnZ2d@bright.net>
Source record: 5163
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4-16-2011 00:31, Joe from Kokomo wrote:

> On 4/15/2011 6:41 PM, Scott wrote:
>
>> Why? If every ham just wrote to their elected officials (for the cost of
>> a stamp, or free by email), they would get the message just as well, if
>> not better than, if they got 1 letter or a personal visit from the ARRL
>> "lobbyist".
>
> Just my personal opinion, but I believe it is quite naive to think that
> if "every ham just wrote". Extremely unlikely...and oh, if not the ARRL,
> just who do you think is going to tell the hams to write and what to
> write about?

Well, if hams won't take any initiative to write their Congressmen, then
they probably don't give two craps enough to really care if we lose
bandwidth. All proposed NPRMs are published in the Federal Register and
a simple search on their website for "FCC" will list them.
http://frwebgate.access.gpo.gov/cgi-bin/multidb.cgi

>
> Finally, it's quite naive to think that a national lobbying organization
> is not helpful -- just look at how successful the NRA is.

So, the ARRL is donating how much to political parties?

The NRA has donated a bit over $18 million from 1989-2010. They were
number 39 of the top 140 donors...
39 National Rifle Assn $18,209,746 17%(To Dems) 82% (To Repubs)
THAT'S probably why they are so successful. Money talks, BS Walks...

http://www.opensecrets.org/orgs/list.php

Didn't see the ARRL in the top 140. Searched and didn't find them on
the list at all. #140 donated about $4.7 million over the same period.

If the ARRL is so successful at lobbying, why did BPL go through even
though they begged members to send more money to fight against it and
lost the battle anyway? Remember when the 13cm band used to be
2300-2450 MHz? I do. Remember when the 1.25M band used to be 220-225
MHz. I do. Remember when a lot of foreign countries had no code
requirement for HF and we did? I do.

I'm not saying they aren't worth something, but why won't they give a
guy a choice about which magazine he wants with his membership?
Probably because QEX doesn't have so many ads as QST and they want the

advertisers to get more bang for their buck (understandably, since they
can charge more for ad space based on the number of magazine "subscribers")

863. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 03:21:06 UTC
From: Scott <acepilotREMOVE@bloomer.net>
Message-ID: <LKmdnQhDvKe5ljTQnZ2dnUVZ_tmdnZ2d@bright.net>
Source record: 5164
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4-16-2011 00:40, Kenneth Scharf wrote:

> All of you are also forgetting that the ARRL (for better or worse) is
> now the 'back bone' of the system that handles testing for ham licenses.
> Without them it would be almost impossible to find where you can locally
> take the test to apply for or upgrade your ham ticket.

Don't forget W5YI as a VEC. That's who I'm affiliated with, although
I'm not active with any VEC at present. They list VEs by state, so you
can find a local examiner.
http://www.w5yi.org/exam_locations_ama.php

The ARRL also
> publishes most of the test guide material (though I would be surprised
> if it wasn't also available on line). Finally they have a good line of
> excellent technical publications on radio and electronics technology.

Yes, so I would almost say they are more in the publishing business than
the lobbying business.

>
> Also they DO offer membership without QST, for additional members of a
> family. Maybe the price of that will give you an idea of what they think
> the membership itself is worth.

So, can I just pay for membership and skip QST?

I believe they are required by the IRS to set a "value" on membership if
they are a non-profit. They are a non-profit, aren't they?

864. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 03:36:44 UTC
From: Joe from Kokomo <joe@indy.net>
Message-ID: <iob2sd$df6$2@dont-email.me>
Source record: 5165
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

> On 4/15/2011 7:27 AM, Joe from Kokomo wrote:
>>
>> tom, just my personal opinion, but too bad you left the ARRL and too bad
>> you don't care.
>>
>> I don't know about your "2 to 5%" figure, but even if it is true, it's
>> exactly 2 to 5% more than any other organization is spending to go to
>> bat for ham radio...and IMHO, we NEED (and should support) a national
>> organization.
>>
>> 73,
>> Joe

On 4/15/2011 9:47 PM, tom wrote:

> The ARRL seems to have little to do with the most important part of
> getting new hams, licensing.

Huh? It's really not clear what you are saying. Have you visited the
ARRL web site?

Here are some of the sections they have listed relating to developing
new hams under the "Licensing, Education & Training" tab:

*FCC License Info & Forms

ARRL can provide helpful FCC information about licensing
requirements, forms, fees and regulations.

*Getting Licensed

Get the information you need to get started: find a class or
study materials and prepare for your licensing exam. Already licensed?
Take the next step and upgrade.

*Volunteer Examiner Coordinator

The ARRL Volunteer Examiner Coordinator (VEC) offers resources
for finding an exam session, becoming a volunteer examiner and VE Team
support.

*Volunteer Instructors/Mentors

*ARRL Courses & Training

ARRL training materials and online classes have been developed to
help you learn at your own pace.

*FCC License Info & Forms

ARRL can provide helpful FCC information about licensing
requirements, forms, fees and regulations.

*Get on the Air

You've got your license, now what? Find resources to help you set
up your first station, get on the air and have fun! Learn More

Volunteer opportunities, recruitment and unique ways to support
Amateur Radio advocacy.

o Amateur Radio in the Classroom

This sure seems like a lot of stuff for a group that you claim is not
supposed to be interested in beginners.

> The National VEC page, http://www.ncvec.org, apparently doesn't even
> acknowledge the ARRL.

Again, huh? This site is "unto themselves". They don't seem to
acknowledge ANY group except themselves. Sorry, but IMHO, a totally
bogus point.

> So much for making new hams.

One more time...Huh?

They DO have a VE program (I AM one), they have an Educational program
to bring ham radio to kids in the class room, they set up space station
contacts for kids in classrooms, they have a Volunteer Instructor
program to teach people how to be instructors for training new hams,
they have volunteer mentors, almost every article in QST has a
"Hamspeak" section to explain unique ham terms to beginners.

Finally, what makes you think they don't want new hams? It would be in
their best interest and longevity to have more new hams. Why would they
shoot themselves in the foot by not wanting new hams?

The only thing that IS clear to me is that you have not read QST in a
long time, have not been to their web site in a long time and seem to
have a real grudge against them for whatever reason (certainly your
prerogative). But you DO demonstrably have your facts wrong about them
doing nothing to encourage new hams.

I would respectfully suggest that you visit their site, arrl.org, and at
the main page choose the "Licensing, Education and Training" tab to see
just how much they ARE doing to cultivate new hams. (Admittedly a tough
job in the Internet Age, but contrary to what you are saying, they ARE
trying).

73,
Joe

865. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 05:43:07 UTC
From: raypsi <rborowiak@gmail.com>
Message-ID: <4679c8f8-0e98-4e9d-9de2-eda72cce5019@u12g2000vbf.googlegroups.com>
Source record: 5166
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On Apr 12, 5:13 pm, "amdx" <a...@knology.net> wrote:
> I have a 22 lb box of QEX magazines from June 1982 to 1994.
> About 140 issues. I don't know if they are all there but most are.
> If anyone is interested in them, $10 plus shipping from 32405.
>   Email me if interested.
>   Mikek

Hey OM:
wtf we going to do now they not going to be making Japanese radios'
anymore?

73
den8zu

866. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 05:46:39 UTC
From: raypsi <rborowiak@gmail.com>
Message-ID: <16993152-bc5d-4f18-b042-1c8ea81536a9@u12g2000vbf.googlegroups.com>
Source record: 5167
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On Apr 16, 1:43 am, raypsi <rborow...@gmail.com> wrote:
> On Apr 12, 5:13 pm, "amdx" <a...@knology.net> wrote:
>
> > I have a 22 lb box of QEX magazines from June 1982 to 1994.
> > About 140 issues. I don't know if they are all there but most are.
> > If anyone is interested in them, $10 plus shipping from 32405.
> >   Email me if interested.
> >   Mikek
>
> Hey OM:
> wtf we going to do now they not going to be making Japanese radios'
> anymore?
>
> 73

Those jap radio's sure will be hot

73 de n8zu

867. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 05:49:04 UTC
From: raypsi <rborowiak@gmail.com>
Message-ID: <694527ca-b4db-4826-b3eb-e5169e5f5693@l36g2000vbp.googlegroups.com>
Source record: 5168
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

```
On Apr 16, 1:46 am, raypsi <rborow...@gmail.com> wrote:
> On Apr 16, 1:43 am, raypsi <rborow...@gmail.com> wrote:
>
> > On Apr 12, 5:13 pm, "amdx" <a...@knology.net> wrote:
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> > > I have a 22 lb box of QEX magazines from June 1982 to 1994.
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> > >                    Email me if interested.
> > >                             Mikek
>
> > Hey OM:
> > wtf we going to do now they not going to be making Japanese radios'
> > anymore?
>
> > 73
>
> Those jap radio's sure will be hot
>
> 73 de  n8zu

And the radio's that aint hot will be hotter,

de n8zu
```

868. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 05:56:34 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iobb2v$ft3$1@dont-email.me>
Source record: 5169
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 4/16/2011 12:43 AM, raypsi wrote:
> On Apr 12, 5:13 pm, "amdx"<a...@knology.net> wrote:
>> I have a 22 lb box of QEX magazines from June 1982 to 1994.
>> About 140 issues. I don't know if they are all there but most are.
>> If anyone is interested in them, $10 plus shipping from 32405.
>> Email me if interested.
>> Mikek
>
> Hey OM:
> wtf we going to do now they not going to be making Japanese radios'
> anymore?
>
> 73
> den8zu

QEX is a magazine. They never made radios, Japanese or otherwise.

John

869. Re: Gordon West is my hero

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 12:33:37 UTC
From: dave <dave@dave.dave>
Message-ID: <4da98c69$0$12454$bd467cd0@news.dslextreme.com>
Source record: 5170
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

```
On 04/15/2011 08:21 PM, Scott wrote:
> On 4-16-2011 00:40, Kenneth Scharf wrote:
>
>> All of you are also forgetting that the ARRL (for better or worse) is
>> now the 'back bone' of the system that handles testing for ham licenses.
>> Without them it would be almost impossible to find where you can locally
>> take the test to apply for or upgrade your ham ticket.
>
> Don't forget W5YI as a VEC. That's who I'm affiliated with, although I'm
> not active with any VEC at present. They list VEs by state, so you can
> find a local examiner.
> http://www.w5yi.org/exam_locations_ama.php
>

.
```

870. Why-Not ? : A "Voice of Amateur Radio" PAC Fund !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 21:17:35 UTC
From: RHF <rhf-newsgroups@pacbell.net>
Message-ID: <bb4721b6-1a69-491e-a769-7f3792e718f6@22g2000prx.googlegroups.com>
Source record: 5171
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On Apr 15, 8:13 pm, Scott <acepilotREM...@bloomer.net> wrote:
> On 4-16-2011 00:31, Joe from Kokomo wrote:
>
> > On 4/15/2011 6:41 PM, Scott wrote:
>
> >> Why? If every ham just wrote to their elected officials (for the cost of
> >> a stamp, or free by email), they would get the message just as well, if
> >> not better than, if they got 1 letter or a personal visit from the ARRL
> >> "lobbyist".
>
> > Just my personal opinion, but I believe it is quite naive to think that
> > if "every ham just wrote". Extremely unlikely...and oh, if not the ARRL,
> > just who do you think is going to tell the hams to write and what to
> > write about?
>
> Well, if hams won't take any initiative to write their Congressmen, then
> they probably don't give two craps enough to really care if we lose
> bandwidth. All proposed NPRMs are published in the Federal Register and
> a simple search on their website for "FCC" will list
them.http://frwebgate.access.gpo.gov/cgi-bin/multidb.cgi
>
>
>
> > Finally, it's quite naive to think that a national lobbying organization
> > is not helpful -- just look at how successful the NRA is.
>
> So, the ARRL is donating how much to political parties?
>
> The NRA has donated a bit over $18 million from 1989-2010. They were
> number 39 of the top 140 donors...
> 39 National Rifle Assn $18,209,746   17%(To Dems)   82% (To Repubs)
> THAT'S probably why they are so successful. Money talks, BS Walks...
>
> http://www.opensecrets.org/orgs/list.php
>
> Didn't see the ARRL in the top 140. Searched and didn't find them on
> the list at all. #140 donated about $4.7 million over the same period.
>
> If the ARRL is so successful at lobbying, why did BPL go through even
> though they begged members to send more money to fight against it and
> lost the battle anyway? Remember when the 13cm band used to be
> 2300-2450 MHz? I do. Remember when the 1.25M band used to be 220-225
> MHz. I do. Remember when a lot of foreign countries had no code

> requirement for HF and we did? I do.
>
> I'm not saying they aren't worth something, but why won't they give a
> guy a choice about which magazine he wants with his membership?
> Probably because QEX doesn't have so many ads as QST and they want the
> advertisers to get more bang for their buck (understandably, since they
> can charge more for ad space based on the number of magazine "subscribers")

IF The ARRL want to have a real "Voice" at the Table
in Congress and at the FCC :Then they have to be as
'smart' as the other "Players" in the Washington, DC
Political 'Action' {Power} Game.

Look At Success : Look at the NRA Political Victory
Fund (NRA-PVF) : http://www.nrapvf.org/

You have and build your 'basic' ARRL Membership
-roughly- 155,000 ARRL Members
http://www.arrl.org/membership

+ Plus you have to have and build a supporting
{Independent} "Voice of Amateur Radio" PAC Fund

The ARRL has enough Members who are Lawyers
set-up and make a "Voice of Amateur Radio" PAC
Fund Do-Able and Work-Able -so- Just Do It !

Encourage Each ARRL Member to make a
Matching {Voluntary} Contribution to the
"Voice of Amateur Radio" [VoAR] PAC Fund
-so- Take the 155,000 ARRL Members
-by- $5 = $775,000 VoAR-PAC Fund : Figure about
20% for a Part-Time Lobbyist and leaves around
$1000 in 'political' contributions per Member of Congress
-by- $10 = $1,555,000 VoAR-PAC Fund : Figure about
20% for a Part-Time Lobbyist and leaves around $2000
in 'political' contributions per Member of Congress

? Is Your Amateur [Ham] Radio "Hobby" Worth an
Extra $5 to $10 per Year To You For A Seat At The
Table of Congress and the FCC in Washington, DC ?

Promote the "Voice of Amateur Radio" PAC Fund
to the American Public and the Corporate World
Git Them To Become Sponsors and Underwriters
of the "Voice of Amateur Radio" PAC Fund too.

Then Use the "Voice of Amateur Radio" PAC Fund
Money to Lobby Congress and the FCC to ensure
Fairness and Equal Treatment for Amateur Radio
in Congress and Before the FCC.

It's All Legal & It's All Good - it's very smart too ~ RHF
.
REALITY CHECK : WITH ONLY 155,000 MEMBERS
THE ARRL HAS THREE GOALS :
1st : Build Membership and Increase the Number of Hams
-or-lose-spectrum-and-vanish-from-the-air-waves-
2nd : Build Membership and Increase the Number of Hams
-or-lose-spectrum-and-vanish-from-the-air-waves-
3rd : Build Membership and Increase the Number of Hams
-or-lose-spectrum-and-vanish-from-the-air-waves-
.
.

871. Re: Cleaning out QEX magazines

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 21:26:53 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9EC9A751F41EDVeebleFetzer@216.250.188.140>
Source record: 5172
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

In news:ysSdne2O6ZHelDTQnZ2dnUVZ_gidnZ2d@bright.net Scott
<acepilotREMOVE@bloomer.net> wrote:

> So, the ARRL is donating how much to political parties?
>
> The NRA has donated a bit over $18 million from 1989-2010. They were
> number 39 of the top 140 donors...

The NRA has spun off an entire "separate" organization to do that, since
the tax status of the basic organization doesn't allow it.

The NRA also has about 4 million members; how many does ARRL have?

http://www.nraila.org/

http://www.arrl.org/political-campaigns-and-the-arrl

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

872. Re: Why-Not ? : A "Voice of Amateur Radio" PAC Fund !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 22:46:27 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <e%oqp.35367$Rx1.16170@en-nntp-03.dc1.easynews.com>
Source record: 5173
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

BPL has NOT "gone through."

The ARRL DOES lobby in D.C. - Chwat & Co., Alexandria,VA
Plus direct HQ access to the FCC commissioners and staff.

Your contributions are regularly requested, plus the most effective,
personal letters to our representatives.

"non-profit" organizations do have restrictions on how money is spent,
e.g. no money to political campaigns, etc.

http://www.arrl.org/regulatory-advocacy

W5MTV

On 4/16/2011 4:17 PM, RHF wrote:
> On Apr 15, 8:13 pm, Scott<acepilotREM...@bloomer.net> wrote:
>> On 4-16-2011 00:31, Joe from Kokomo wrote:
>>
>>> On 4/15/2011 6:41 PM, Scott wrote:
>>
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them.http://frwebgate.access.gpo.gov/cgi-bin/multidb.cgi
>>
>>
>>
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>>> is not helpful -- just look at how successful the NRA is.
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>> 2300-2450 MHz? I do. Remember when the 1.25M band used to be 220-225
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>> requirement for HF and we did? I do.
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>> can charge more for ad space based on the number of magazine "subscribers")
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> 'smart' as the other "Players" in the Washington, DC
> Political 'Action' {Power} Game.
>
> Look At Success : Look at the NRA Political Victory
> Fund (NRA-PVF) : http://www.nrapvf.org/
>
> You have and build your 'basic' ARRL Membership
> -roughly- 155,000 ARRL Members
> http://www.arrl.org/membership
>
> + Plus you have to have and build a supporting
> {Independent} "Voice of Amateur Radio" PAC Fund
>
> The ARRL has enough Members who are Lawyers
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>
> Encourage Each ARRL Member to make a
> Matching {Voluntary} Contribution to the
> "Voice of Amateur Radio" [VoAR] PAC Fund
> -so- Take the 155,000 ARRL Members
> -by- $5 = $775,000 VoAR-PAC Fund : Figure about
> 20% for a Part-Time Lobbyist and leaves around
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>
> ? Is Your Amateur [Ham] Radio "Hobby" Worth an
> Extra $5 to $10 per Year To You For A Seat At The
> Table of Congress and the FCC in Washington, DC ?
>
> Promote the "Voice of Amateur Radio" PAC Fund
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> Git Them To Become Sponsors and Underwriters
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>
> Then Use the "Voice of Amateur Radio" PAC Fund
> Money to Lobby Congress and the FCC to ensure
> Fairness and Equal Treatment for Amateur Radio
> in Congress and Before the FCC.
>
> It's All Legal& It's All Good - it's very smart too ~ RHF
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> REALITY CHECK : WITH ONLY 155,000 MEMBERS
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> -or-lose-spectrum-and-vanish-from-the-air-waves-
> .
> .

873. Re: Why-Not ? : A "Voice of Amateur Radio" PAC Fund !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-16 23:23:05 UTC
From: RHF <rhf-newsgroups@pacbell.net>
Message-ID: <6dda1c90-3270-4add-863f-2dbbf61f76a2@j9g2000prj.googlegroups.com>
Source record: 5174
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On Apr 16, 3:46 pm, MTV <volzte...@comcast.net> wrote:
- BPL has NOT "gone through."
-
- The ARRL DOES lobby in D.C. - Chwat & Co., Alexandria,VA
- Plus direct HQ access to the FCC commissioners and staff.
-
- Your contributions are regularly requested, plus the most effective,
- personal letters to our representatives.
-
- "non-profit" organizations do have restrictions on how money is
spent,
- e.g. no money to political campaigns, etc.
-
- http://www.arrl.org/regulatory-advocacy
-
- W5MTV

W5MTV --- Hence "Look At {Better} Success" :
Look at the NRA Political Victory
Fund (NRA-PVF) : http://www.nrapvf.org/

The Are More and Bigger Challenges To Amateur Radio Then
Just BPL : Such As Lose of RF Spectrum and Radio Bands.
http://www.arrl.org/files/file/Hambands_color.pdf

Simple Fact : With just 155,000 Members the ARRL
is a relatively 'small' Constituency Group for anyone
Congressman or Senator; and the US Congress as a
whole; as contrasted to :
* NRA ~ 4 Million Members [25X ARRL]
* AARP ~ 40 Million Members [250X ARRL]
Both of Which Claim To Be "Non-Profit" Organizations too...

Again I Simply Posse The Question :
Why-Not ? : A "Voice of Amateur Radio" PAC Fund !
http://groups.google.com/group/rec.radio.shortwave/msg/15807e1c0a01df1c
.
.
> On 4/16/2011 4:17 PM, RHF wrote:
>
Look At Success : Look at the NRA Political Victory
Fund (NRA-PVF) : http://www.nrapvf.org/
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>

>
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>
>
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> >>> On 4/15/2011 6:41 PM, Scott wrote:
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> >> they probably don't give two craps enough to really care if we lose
> >> bandwidth. All proposed NPRMs are published in the Federal Register and
> >> a simple search on their website for "FCC" will list
them.http://frwebgate.access.gpo.gov/cgi-bin/multidb.cgi
>
> >>> Finally, it's quite naive to think that a national lobbying organization
> >>> is not helpful -- just look at how successful the NRA is.
>
> >> So, the ARRL is donating how much to political parties?
>
> >> The NRA has donated a bit over $18 million from 1989-2010. They were
> >> number 39 of the top 140 donors...
> >> 39 National Rifle Assn $18,209,746   17%(To Dems)   82% (To Repubs)
> >> THAT'S probably why they are so successful. Money talks, BS Walks...
>
> >>http://www.opensecrets.org/orgs/list.php
>
> >> Didn't see the ARRL in the top 140. Searched and didn't find them on
> >> the list at all. #140 donated about $4.7 million over the same period.
>
> >> If the ARRL is so successful at lobbying, why did BPL go through even
> >> though they begged members to send more money to fight against it and
> >> lost the battle anyway? Remember when the 13cm band used to be
> >> 2300-2450 MHz? I do. Remember when the 1.25M band used to be 220-225
> >> MHz. I do. Remember when a lot of foreign countries had no code
> >> requirement for HF and we did? I do.
>
> >> I'm not saying they aren't worth something, but why won't they give a
> >> guy a choice about which magazine he wants with his membership?
> >> Probably because QEX doesn't have so many ads as QST and they want the

> >> advertisers to get more bang for their buck (understandably, since they
> >> can charge more for ad space based on the number of magazine "subscribers")
>
> > *IF* The ARRL want to have a real "Voice" at the Table
> > in Congress and at the FCC :Then they have to be as
> > 'smart' as the other "Players" in the Washington, DC
> > Political 'Action' {Power} Game.
>
> > Look At Success : Look at the NRA Political Victory
> > Fund (NRA-PVF) :http://www.nrapvf.org/
>
> > You have and build your 'basic' ARRL Membership
> > -roughly- 155,000 ARRL Members
> >http://www.arrl.org/membership
>
> > + Plus you have to have and build a supporting
> > {Independent} "Voice of Amateur Radio" PAC Fund
>
> > The ARRL has enough Members who are Lawyers
> > set-up and make a "Voice of Amateur Radio" PAC
> > Fund Do-Able and Work-Able -so- Just Do It !
>
> > Encourage Each ARRL Member to make a
> > Matching {Voluntary} Contribution to the
> > "Voice of Amateur Radio" [VoAR] PAC Fund
> > -so- Take the 155,000 ARRL Members
> > -by- $5 = $775,000 VoAR-PAC Fund : Figure about
> > 20% for a Part-Time Lobbyist and leaves around
> > $1000 in 'political' contributions per Member of Congress
> > -by- $10 = $1,555,000 VoAR-PAC Fund : Figure about
> > 20% for a Part-Time Lobbyist and leaves around $2000
> > in 'political' contributions per Member of Congress
>
> > ? Is Your Amateur [Ham] Radio "Hobby" Worth an
> > Extra $5 to $10 per Year To You For A Seat At The
> > Table of Congress and the FCC in Washington, DC ?
>
> > Promote the "Voice of Amateur Radio" PAC Fund
> > to the American Public and the Corporate World
> > Git Them To Become Sponsors and Underwriters
> > of the "Voice of Amateur Radio" PAC Fund too.
>
> > Then Use the "Voice of Amateur Radio" PAC Fund
> > Money to Lobby Congress and the FCC to ensure
> > Fairness and Equal Treatment for Amateur Radio
> > in Congress and Before the FCC.
>
> > It's All Legal& It's All Good - it's very smart too ~ RHF
> >   .
> > REALITY CHECK : WITH ONLY 155,000 MEMBERS

> > THE ARRL HAS THREE GOALS :
> > 1st : Build Membership and Increase the Number of Hams
> > -or-lose-spectrum-and-vanish-from-the-air-waves-
> > 2nd : Build Membership and Increase the Number of Hams
> > -or-lose-spectrum-and-vanish-from-the-air-waves-
> > 3rd : Build Membership and Increase the Number of Hams
> > -or-lose-spectrum-and-vanish-from-the-air-waves-
> > .
> > .

874. 2011 LATEST HOT PICS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-17 04:50:00 UTC
From: SRAVANTHI LOVE <sravanthi.sravya24@gmail.com>
Message-ID: <984414fa-6753-475f-8e13-18a4bdbf8781@22g2000prx.googlegroups.com>
Source record: 5175

hot katrina kaif wallpapers
http://cinyworld96.blogspot.com/2011/03/katrina-kaif.html
new hot sruthi hassan stills
http://cinyworld96.blogspot.com/2011/03/shruthi-hassan.html
namitha hot sexy stills
http://cinyworld96.blogspot.com/2011/04/namitha.html
deepika padukone new stills
http://cinyworld96.blogspot.com/2011/03/deepika-padukone.html
hot tamanna sexy wallpapers
http://cinyworld96.blogspot.com/2011/04/tamanna.html
beautiful aishwariya rai
http://cinyworld96.blogspot.com/2011/03/aishwariya-rai.html
diya mirza sexy photos
http://cinyworld96.blogspot.com/2011/03/diya-mirza.html
stunning beauty sneha
http://cinyworld96.blogspot.com/2011/03/sneha.html
unbelivable iliyana photos
http://cinyworld96.blogspot.com/2011/03/iliyana.html
priyamani beautiful stills
http://cinyworld96.blogspot.com/2011/03/priyamani.html
pranitha in half saree
http://cinyworld96.blogspot.com/2011/03/pranitha.html
richa saree stills
http://cinyworld96.blogspot.com/2011/03/richa-gangopadyay.html

875. Re: Why-Not ? : A "Voice of Amateur Radio" PAC Fund !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-17 06:14:33 UTC
From: bpnjensen <bpnjensen@yahoo.com>
Message-ID: <57a86d3f-8a55-4719-bfcf-bc548423006a@b13g2000prf.googlegroups.com>
Source record: 5176
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On Apr 16, 4:23 pm, RHF <rhf-newsgro...@pacbell.net> wrote:
> On Apr 16, 3:46 pm, MTV <volzte...@comcast.net> wrote:
> - BPL has NOT "gone through."
> -
> - The ARRL DOES lobby in D.C. - Chwat & Co., Alexandria,VA
> - Plus direct HQ access to the FCC commissioners and staff.
> -
> - Your contributions are regularly requested, plus the most effective,
> - personal letters to our representatives.
> -
> - "non-profit" organizations do have restrictions on how money is
> spent,
> - e.g. no money to political campaigns, etc.
> -
> -http://www.arrl.org/regulatory-advocacy
> -
> - W5MTV
>
> W5MTV --- Hence "Look At {Better} Success" :
> Look at the NRA Political Victory
> Fund (NRA-PVF) :http://www.nrapvf.org/
>
> The Are More and Bigger Challenges To Amateur Radio Then
> Just BPL : Such As Lose of RF Spectrum and Radio
Bands.http://www.arrl.org/files/file/Hambands_color.pdf
>
> Simple Fact : With just 155,000 Members the ARRL
> is a relatively 'small' Constituency Group for anyone
> Congressman or Senator; and the US Congress as a
> whole; as contrasted to :
> * NRA ~ 4 Million Members [25X ARRL]
> * AARP ~ 40 Million Members [250X ARRL]
> Both of Which Claim To Be "Non-Profit" Organizations too...
>
> Again I Simply Posse The Question :
> Why-Not ? : A "Voice of Amateur Radio" PAC Fund
!http://groups.google.com/group/rec.radio.shortwave/msg/15807e1c0a01df1c
> .
> .> On 4/16/2011 4:17 PM, RHF wrote:
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> Look At Success : Look at the NRA Political Victory
> Fund (NRA-PVF) :http://www.nrapvf.org/
>

>
>
>
>
>
>
>
>
> > > On Apr 15, 8:13 pm, Scott<acepilotREM...@bloomer.net> wrote:
> > >> On 4-16-2011 00:31, Joe from Kokomo wrote:
>
> > >>> On 4/15/2011 6:41 PM, Scott wrote:
>
> > >>>> Why? If every ham just wrote to their elected officials (for the cost of
> > >>>> a stamp, or free by email), they would get the message just as well, if
> > >>>> not better than, if they got 1 letter or a personal visit from the ARRL
> > >>>> "lobbyist".
>
> > >>> Just my personal opinion, but I believe it is quite naive to think that
> > >>> if "every ham just wrote". Extremely unlikely...and oh, if not the ARRL,
> > >>> just who do you think is going to tell the hams to write and what to
> > >>> write about?
>
> > >> Well, if hams won't take any initiative to write their Congressmen, then
> > >> they probably don't give two craps enough to really care if we lose
> > >> bandwidth. All proposed NPRMs are published in the Federal Register and
> > >> a simple search on their website for "FCC" will list
them.http://frwebgate.access.gpo.gov/cgi-bin/multidb.cgi
>
> > >>> Finally, it's quite naive to think that a national lobbying organization
> > >>> is not helpful -- just look at how successful the NRA is.
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> > >> THAT'S probably why they are so successful. Money talks, BS Walks...
>
> > >>http://www.opensecrets.org/orgs/list.php
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> > >> Didn't see the ARRL in the top 140. Searched and didn't find them on
> > >> the list at all. #140 donated about $4.7 million over the same period.
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> > >> 2300-2450 MHz? I do. Remember when the 1.25M band used to be 220-225
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> > >> requirement for HF and we did? I do.

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> > > Fund (NRA-PVF) :http://www.nrapvf.org/
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> > > You have and build your 'basic' ARRL Membership
> > > -roughly- 155,000 ARRL Members
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>
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> > > {Independent} "Voice of Amateur Radio" PAC Fund
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> > > Fund Do-Able and Work-Able -so- Just Do It !
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> > > Encourage Each ARRL Member to make a
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>
> > > Then Use the "Voice of Amateur Radio" PAC Fund
> > > Money to Lobby Congress and the FCC to ensure
> > > Fairness and Equal Treatment for Amateur Radio
> > > in Congress and Before the FCC.

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> > >   .
> > >   .

What hams need are wealthy, high-profile members - like the NRA and AARP. They may be small, but fascinating people, even if they are stooges, can yield results.

876. Re: Why-Not ? : A "Voice of Amateur Radio" PAC Fund !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-17 11:07:23 UTC
From: atec77 <atec77@hotmail.com>
Message-ID: <ioehle$hd8$1@dont-email.me>
Source record: 5177
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 17/04/2011 4:14 PM, bpnjensen wrote:
> On Apr 16, 4:23 pm, RHF<rhf-newsgro...@pacbell.net> wrote:
>> On Apr 16, 3:46 pm, MTV<volzte...@comcast.net> wrote:
>> - BPL has NOT "gone through."
>> -
>> - The ARRL DOES lobby in D.C. - Chwat& Co., Alexandria,VA
>> - Plus direct HQ access to the FCC commissioners and staff.
>> -
>> - Your contributions are regularly requested, plus the most effective,
>> - personal letters to our representatives.
>> -
>> - "non-profit" organizations do have restrictions on how money is
>> spent,
>> - e.g. no money to political campaigns, etc.
>> -
>> -http://www.arrl.org/regulatory-advocacy
>> -
>> - W5MTV
>>
>> W5MTV --- Hence "Look At {Better} Success" :
>> Look at the NRA Political Victory
>> Fund (NRA-PVF) :http://www.nrapvf.org/
>>
>> The Are More and Bigger Challenges To Amateur Radio Then
>> Just BPL : Such As Lose of RF Spectrum and Radio
Bands.http://www.arrl.org/files/file/Hambands_color.pdf
>>
>> Simple Fact : With just 155,000 Members the ARRL
>> is a relatively 'small' Constituency Group for anyone
>> Congressman or Senator; and the US Congress as a
>> whole; as contrasted to :
>> * NRA ~ 4 Million Members [25X ARRL]
>> * AARP ~ 40 Million Members [250X ARRL]
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>> Why-Not ? : A "Voice of Amateur Radio" PAC Fund
!http://groups.google.com/group/rec.radio.shortwave/msg/15807e1c0a01df1c
>> .
>> .> On 4/16/2011 4:17 PM, RHF wrote:
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>>>> On Apr 15, 8:13 pm, Scott<acepilotREM...@bloomer.net> wrote:
>>>>> On 4-16-2011 00:31, Joe from Kokomo wrote:
>>
>>>>>> On 4/15/2011 6:41 PM, Scott wrote:
>>
>

>>>> .
>
> What hams need are wealthy, high-profile members - like the NRA and
> AARP. They may be small, but fascinating people, even if they are
> stooges, can yield results.

So you need a dozen younger Barry Goldwaters ?
or a 2nd organisation same as here because the incumbent are hopeless

--
X-No-Archive: Yes

877. Re: Kids Don't Kill Each Other With 2 Way Radios

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-17 13:21:36 UTC
From: dave <dave@dave.dave>
Message-ID: <4daae926$0$12460$bd467cd0@news.dslextreme.com>
Source record: 5178
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 04/16/2011 02:17 PM, RHF wrote:

>
> *IF* The ARRL want to have a real "Voice" at the Table
> in Congress and at the FCC :Then they have to be as
> 'smart' as the other "Players" in the Washington, DC
> Political 'Action' {Power} Game.
>
> Look At Success : Look at the NRA Political Victory
> Fund (NRA-PVF) : http://www.nrapvf.org/
>

878. Re: Think of ham radio as a well regulated electronic militia

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-17 13:30:04 UTC
From: dave <dave@dave.dave>
Message-ID: <4daaeb22$0$12498$bd467cd0@news.dslextreme.com>
Source record: 5179
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 04/16/2011 04:23 PM, RHF wrote:

> W5MTV --- Hence "Look At {Better} Success" :
> Look at the NRA Political Victory
> Fund (NRA-PVF) : http://www.nrapvf.org/
>
> The Are More and Bigger Challenges To Amateur Radio Then
> Just BPL : Such As Lose of RF Spectrum and Radio Bands.
> http://www.arrl.org/files/file/Hambands_color.pdf
>

.

879. Re: We got Joe Walsh!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-17 16:59:42 UTC
From: dave <dave@dave.dave>
Message-ID: <4dab1c46$0$12452$bd467cd0@news.dslextreme.com>
Source record: 5180
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On 04/16/2011 11:14 PM, bpnjensen wrote:

>
> What hams need are wealthy, high-profile members - like the NRA and
> AARP. They may be small, but fascinating people, even if they are
> stooges, can yield results.

880. Re: Why-Not ? : A "Voice of Amateur Radio" PAC Fund !

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-17 19:49:22 UTC
From: Speagle <none@none.org>
Message-ID: <iofg82$vr6$2@news.albasani.net>
Source record: 5181
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.shortwave

On Sat, 16 Apr 2011 14:17:35 -0700, RHF wrote:

IF The ARRL want to have a real "Voice" at the Table in Congress and at the FCC :Then they have to be as 'smart' as the other "Players" in the Washington, DC Political 'Action' {Power} Game.
Look At Success : Look at the NRA Political Victory Fund (NRA-PVF) : http://www.nrapvf.org/

Government for sale to the highest bidder?... typical stupid teabagger

Teabagging republicans would sell their mother's SS to the rich while living under a bridge burning the corpses of the children they fought so hard not to abort and brag to each other about their perceived superior intellect on their new 400Mhz cellphones.

881. SUPER HOT VIDEOS AND ALL ACTRESSES KISSING PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-19 01:35:48 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <5e02ddcb-cd23-4cf7-945b-6843a04a6f71@22g2000prx.googlegroups.com>
Source record: 5182

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SeXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

882. Tower hinge, would this work?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-20 15:58:08 UTC
From: stryped <stryped1@yahoo.com>
Message-ID: <657ca43c-a9e9-4e9b-b701-7ab4862c19f7@z33g2000vbk.googlegroups.com>
Source record: 5183

My idea is to make some sort of hinge so I could lower it over and raise it. I know I mentioned it before but now seems to be the time I need to do it. (My little boy is starting to find pieces of the antenna in the yard.)

My thought was to dig a hole beside my current antenna a couple of feet deep and in circumfrence. Place some 3 inch schedule 80 pipe (one
for each corner) into the holw with a 2x2 or so piece of 1/4 inch steel on top. On the end of the plate would be welded a few pieces of black pipe the diameter of a hitch pin. There would be another piece of 2x2x1/4 piece of steel with more black iron pipe on it. The black iron pipe would in effect be the "hinge" part of the mechanism. (sort of the way I made the fold down gate for my trailer).

Here is where I am having trouble. On top of the "top" plate, I have some 2 inch black iron pipe. My first thought is two weld three of these as "legs" on top of the top plate, then put my cut down exisiting tower into this pipe, drilling a hole through each leg. (The
new two inch pipe and the legs on the tower). Instering a grade 5 bolt
into this. I have also thought, I wonder if it would be easier to just
put the three legs up and use u bolts to attach the tv tower to the outside of the legs.

I would still need to climb part way up it or have the capability to to adjust my sat dish. I cant figure out a good way to do it with the tower leaned over.

883. RARE HOT SEX PHOTOS & VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-21 10:35:22 UTC
From: SRAVANTHI LOVE <sravanthi.sravya24@gmail.com>
Message-ID: <98755823-2d81-44b4-b783-e911305137a4@t19g2000prd.googlegroups.com>
Source record: 5184

hot lipkiss
http://hotvideosee.blogspot.com/2011/04/lipkiss.html
lipkiss in without dress
http://hotvideosee.blogspot.com/2011/04/lipkiss-2.html
sexy katrina kaif
http://hotvideosee.blogspot.com/2011/04/katrina-kaif.html
deepika padukone sexy back look
http://hotvideosee.blogspot.com/2011/04/deepika-padukone.html
asin hot wallpapers
http://hotvideosee.blogspot.com/2011/04/asin.html
namitha with a sexy look
http://hotvideosee.blogspot.com/2011/04/namitha.html
sneha hot wallpapers
http://hotvideosee.blogspot.com/2011/04/sneha.html
parugu sheela in a half saree
http://hotvideosee.blogspot.com/2011/04/sheela.html
trisha hot navel show in a half saree
http://hotvideosee.blogspot.com/2011/04/trisha.html

884. Re: Tower hinge, would this work?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-21 10:48:00 UTC
From: david <none@nospam.com>
Message-ID: <iop210fiq1@dont-email.me>
Source record: 5185

On Wed, 20 Apr 2011 08:58:08 -0700, stryped rearranged some electrons to say:

> My idea is to make some sort of hinge so I could lower it over and raise
> it.

Google "fold over tower" or "hinge base tower" to see what the rest of the world does.

885. Re: Tower hinge, would this work?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-21 23:18:23 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <96fd8395-658f-4532-afd7-e2468ea41de6@32g2000vbe.googlegroups.com>
Source record: 5186

On Apr 21, 6:48 am, david <n...@nospam.com> wrote:
> On Wed, 20 Apr 2011 08:58:08 -0700, stryped rearranged some electrons to
> say:
>
> > My idea is to make some sort of hinge so I could lower it over and raise
> > it.
>
> Google "fold over tower" or "hinge base tower" to see what the rest of
> the world does.

Really cant get my head wrapped around most of the discription but two
feet in the ground for the supports probably isnt enough. We have a
30ft tower at work with a pretty light load Omni UHF antenna and it is
8 ft in the ground.

Jimmie

886. Re: Tower hinge, would this work?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-21 23:47:03 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <982c888b-205c-4a2b-83d8-789537c23fd9@l2g2000prg.googlegroups.com>
Source record: 5187

On Apr 20, 8:58 am, stryped <stryp...@yahoo.com> wrote:

< snip >

> I would still need to climb part way up it or have the capability to
> to adjust my sat dish. I cant figure out a good way to do it with the
> tower leaned over.

I assume you meant " part way up to have ...", so I'll offer an approach to the satellite dish portion: You can make a very accurate angle finder, irrespective of whether the tower is upright or tilted. I did it virtually free.

Photocopy a protractor or print an Internet graphic of one and paste/tape it to a smooth flat surface. For mine I used a waste chunk of half-inch pine and the size -- 180 degrees' worth of arc -- is about ten inches. I printed it up to that size on standard paper.

Paste the protractor so the vertex (the point from which the angles originate) is on one edge of the board. Hang a weighted string from the vertex. (I used dial cord; it's strong, smooth and thin.) When the board is held vertical, the angle of the top or bottom edges of the board are indicated by the angle mark crossed by the string.

The string is only a tenth of a degree wide so you figure I can set angles pretty well using this crude, clunky device. (I used it to install a C-band dish in the 1980s; I got elevation perfect the first time and azimuth within a quarter-degree.)

Given that one picture is worth a thousand words, I have a graphic I drew. I'm having trouble uploading it to my web provider but I will email it to you if you like. You can post here or directly email your interest to me at the "sobars" email address you see for me at cox.net.

73,
"Sal"
(KD6VKW)

887. Re: Tower hinge, would this work?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-22 00:21:58 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <58504f56-86db-4d08-a22e-27f5e9644531@x37g2000prc.googlegroups.com>
Source record: 5188

On Apr 21, 4:47 pm, "Sal M. Onella" <sob...@cox.net> wrote:
> On Apr 20, 8:58 am, stryped <stryp...@yahoo.com> wrote:
>
> < snip >
>
> > I would still need to climb part way up it or have the capability to
> > to adjust my sat dish. I cant figure out a good way to do it with the
> > tower leaned over.
>
> I assume you meant " part way up to have ...", so I'll offer an
> approach to the satellite dish portion:

< snip >

> Given that one picture is worth a thousand words, I have a graphic I
> drew. I'm having trouble uploading it to my web provider but I will
> email it to you if you like.

I have obtained mastery over my Internet provider and their
sucky software.

http://members.cox.net/markhamjf/ham/Cheap_Inclinometer.jpg

is my graphic of the angle finder. I called it an "inclinometer."

Enjoy,
"Sal"

888. SEXY VIDEOS YOU MUST SEE MASALA HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-22 01:36:54 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <eb4fa058-4dac-49b0-905c-c7458b59662c@r4g2000prm.googlegroups.com>
Source record: 5189

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SeXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

889. Re: cushcraft A3S Tribander HF beam

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-22 15:28:47 UTC
From: "D@LS" <helmsman@wowway.com/>
Message-ID: <af73r6ptkgpft6gj5q5d6t4cdqvouigpv3@4ax.com>
Source record: 5190

On 25 Apr 2004 23:23:13 -0700, nm5k@wt.net (Mark Keith) wrote:

>'Doc <w5lz@cwis.net> wrote in message news:<408BB5E4.9CAD1643@cwis.net>...
>> Les,
>> Hygain uses the same insulator for several of their
>> antennas, and it can be a problem with all of them.
>> Replacing it with a 'solid' insulator of some kind is
>> one solution. I'm still hunting for a replacement for
>> one for an 'R-7' (the only difference is in the length).
>> Thought about using 'Delrin'(sp) or some other type of
>> plexiglas/perspex, but haven't found a source yet.
>> Good luck...
>> 'Doc
>
>I've got a A4S which has the same thing on the driven element...I've
>often wondered what I'll do if that thing ever breaks...Guess the
>delrin rod is one idea. I've wondered about a wood dowel that is
>varnished as one solution...Or convert to boom grounded, and replace
>with aluminum...But then you'd have to add a matching device...MK

Call a fiberglass place and get a cheap resin/hardner and fill in the center.
Anything you don't want it to stick to, use vaseline. A pint of the r/h should do it.

890. OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-23 03:21:29 UTC
From: DerbyDad03 <DerbyDad03@eznet.net>
Message-ID: <iotgjj$vr3$1@speranza.aioe.org>
Source record: 5191

I might be asking my question in the wrong group, so feel free to send me packing if I am.

The background:

Our high school just installed a scoreboard for our new Varsity Softball field. The scoreboard controller talks to the scoreboard via a cable that has a 1/4" TRS plug on each end.

http://www.planetronic.es/images/ak2563.jpg

One end plugs into the controller and the other end plugs into a jack that is wired to the scoreboard in the outfield.

Unfortunately, they didn't ask anyone involved with the team which dugout would be the home dugout, and they installed the jack that the controller plugs into in the visitor's dugout.

We are currently using a 20' cord so that the operator doesn't have to sit in the visitor's dugout...he sits outside the dugout, but is still on the visitor's side of the field.

We'd like to move the operator to our dugout, but we can't get the school to move the jack until after the season is over.

The question:

Could we use a wireless transmitter and receiver in place of the cord? If so, we could put the receiver in the visitor's dugout and plug it into the socket and the transmitter would plug into the controller. The range would be under 100' and the dugouts are made of concrete.

The problem is, I don't know where to start looking for this type of equipment, or even what I would need to know to spec it out.

Any suggestions would be appreciated.

Thanks!

891. Re: OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-24 16:33:29 UTC
From: david <none@nospam.com>
Message-ID: <ip1jcpulg1@dont-email.me>
Source record: 5192

On Fri, 22 Apr 2011 23:21:29 -0400, DerbyDad03 rearranged some electrons
to say:

> I might be asking my question in the wrong group, so feel free to send
> me packing if I am.
>
> The background:
>
> Our high school just installed a scoreboard for our new Varsity Softball
> field. The scoreboard controller talks to the scoreboard via a cable
> that has a 1/4" TRS plug on each end.
>
> http://www.planetronic.es/images/ak2563.jpg
>
> One end plugs into the controller and the other end plugs into a jack
> that is wired to the scoreboard in the outfield.
>
> Unfortunately, they didn't ask anyone involved with the team which
> dugout would be the home dugout, and they installed the jack that the
> controller plugs into in the visitor's dugout.
>
> We are currently using a 20' cord so that the operator doesn't have to
> sit in the visitor's dugout...he sits outside the dugout, but is still
> on the visitor's side of the field.
>
> We'd like to move the operator to our dugout, but we can't get the
> school to move the jack until after the season is over.
>
> The question:
>
> Could we use a wireless transmitter and receiver in place of the cord?
> If so, we could put the receiver in the visitor's dugout and plug it
> into the socket and the transmitter would plug into the controller. The
> range would be under 100' and the dugouts are made of concrete.
>
> The problem is, I don't know where to start looking for this type of
> equipment, or even what I would need to know to spec it out.
>
> Any suggestions would be appreciated.
>
> Thanks!

This group is about antennas used in the Amateur Radio service, aka ham
radio.

Why not just make a 100-foot cord for the controller?

892. Re: OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-24 18:21:19 UTC
From: DerbyDad03 <DerbyDad03@eznet.net>
Message-ID: <ip1pmk$rb6$1@speranza.aioe.org>
Source record: 5193

On 04/24/11 12:33 PM, david wrote:
> On Fri, 22 Apr 2011 23:21:29 -0400, DerbyDad03 rearranged some electrons
> to say:
>
>> I might be asking my question in the wrong group, so feel free to send
>> me packing if I am.
>>
>> The background:
>>
>> Our high school just installed a scoreboard for our new Varsity Softball
>> field. The scoreboard controller talks to the scoreboard via a cable
>> that has a 1/4" TRS plug on each end.
>>
>> http://www.planetronic.es/images/ak2563.jpg
>>
>> One end plugs into the controller and the other end plugs into a jack
>> that is wired to the scoreboard in the outfield.
>>
>> Unfortunately, they didn't ask anyone involved with the team which
>> dugout would be the home dugout, and they installed the jack that the
>> controller plugs into in the visitor's dugout.
>>
>> We are currently using a 20' cord so that the operator doesn't have to
>> sit in the visitor's dugout...he sits outside the dugout, but is still
>> on the visitor's side of the field.
>>
>> We'd like to move the operator to our dugout, but we can't get the
>> school to move the jack until after the season is over.
>>
>> The question:
>>
>> Could we use a wireless transmitter and receiver in place of the cord?
>> If so, we could put the receiver in the visitor's dugout and plug it
>> into the socket and the transmitter would plug into the controller. The
>> range would be under 100' and the dugouts are made of concrete.
>>
>> The problem is, I don't know where to start looking for this type of
>> equipment, or even what I would need to know to spec it out.
>>
>> Any suggestions would be appreciated.
>>
>> Thanks!
>
> This group is about antennas used in the Amateur Radio service, aka ham

> radio.
>
> Why not just make a 100-foot cord for the controller?

Thanks for the response.

While the straight line distance is about 100', the physical distance for a cord would be about twice that in order to go around the backstop.

Then there's a walkway to deal with, players with spikes, etc. While a longer cord will certainly work, I'm just wondering about alternative solutions.

893. Re: OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-25 20:35:18 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ip4lsrmru1@news.jpl.nasa.gov>
Source record: 5194

DerbyDad03 wrote:
> I might be asking my question in the wrong group, so feel free to send
> me packing if I am.
>
> The background:
>
> Our high school just installed a scoreboard for our new Varsity Softball
> field. The scoreboard controller talks to the scoreboard via a cable
> that has a 1/4" TRS plug on each end.
>
> http://www.planetronic.es/images/ak2563.jpg
>
> One end plugs into the controller and the other end plugs into a jack
> that is wired to the scoreboard in the outfield.
>
> Unfortunately, they didn't ask anyone involved with the team which
> dugout would be the home dugout, and they installed the jack that the
> controller plugs into in the visitor's dugout.
>
> We are currently using a 20' cord so that the operator doesn't have to
> sit in the visitor's dugout...he sits outside the dugout, but is still
> on the visitor's side of the field.
>
> We'd like to move the operator to our dugout, but we can't get the
> school to move the jack until after the season is over.
>
> The question:
>
> Could we use a wireless transmitter and receiver in place of the cord?
> If so, we could put the receiver in the visitor's dugout and plug it
> into the socket and the transmitter would plug into the controller. The
> range would be under 100' and the dugouts are made of concrete.
>
> The problem is, I don't know where to start looking for this type of
> equipment, or even what I would need to know to spec it out.
>

You need to find out what kind of signals are carried over the cable?
Is it some sort of serial data (very likely)? If so, then you should be
able to find some sort of wireless data link that can handle the data
rates and formats.

What does the scoreboard manufacturer offer? (This has to be a
reasonably common problem..)

894. Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 00:35:29 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <7634e01d-847f-48ea-be5b-17d56c7c2329@k3g2000prl.googlegroups.com>
Source record: 5195

This group has presented members with valuable lessons in antennas and transmission lines, like how to measure, how to match, etc.

Something I haven't seen is a discussion of the source impedance of the transmitter. My curiosity was piqued today as I took some baby steps into EZNEC. A particular antenna had such-and-such VSWR if fed with a 50-ohm cable and a different value if fed with a 75-ohm cable.

While this is hardly news, it got me wondering whether a 75-ohm cable will load the transmitter the same. Doesn't seem like it.

My point: Using 75-ohm cable to improve the match at the antenna won't help me ... IF ... I suffer a corresponding loss due to mismatch at the back of the radio. My HF radios, all solid state, specify a 50 ohm load. As necessary, I routinely use an internal autotuner and either of two external manual tuners. (I'm aware of the published 1/12 wavelength matching method.)

Wisdom in any form would be appreciated. Thanks.

"Sal"
(KD6VKW)

895. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 00:59:17 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <1ICdnbW0bYd8hSvQnZ2dnUVZ_qydnZ2d@earthlink.com>
Source record: 5196

"Sal M. Onella" <sobars@cox.net> wrote in message
news:7634e01d-847f-48ea-be5b-17d56c7c2329@k3g2000prl.googlegroups.com...
> This group has presented members with valuable lessons in antennas and
> transmission lines, like how to measure, how to match, etc.
>
> Something I haven't seen is a discussion of the source impedance of
> the transmitter. My curiosity was piqued today as I took some baby
> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> While this is hardly news, it got me wondering whether a 75-ohm cable
> will load the transmitter the same. Doesn't seem like it.
>
> My point: Using 75-ohm cable to improve the match at the antenna
> won't help me ... IF ... I suffer a corresponding loss due to
> mismatch at the back of the radio. My HF radios, all solid state,
> specify a 50 ohm load. As necessary, I routinely use an internal
> autotuner and either of two external manual tuners. (I'm aware of the
> published 1/12 wavelength matching method.)
>
> Wisdom in any form would be appreciated. Thanks.
>
> "Sal"
> (KD6VKW)

A transmitter output impedance is designed for maximum power transfer at a specific impedance. Most of the the older tube transmitters impedance was tunable within a range.

In simple terms the impedance of the transmitter tube is the plate voltage devided by the current. This impedance is then transformed to the nominal 50 ohms of the antenna system. If the transmitter has the usual tune and load controls, the exect impedance will not mater as you adjust for maximum transmitter output.

Most of the transistor transmitters are not adjustable so the output impedance is usually fixed at 50 ohms for maximum power transfer. If the impedance of the antenna system is not 50 ohms, then the output power will be less than the designed output. You can use the antenna tuner to adjust for a match.

896. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 01:07:59 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ip55s3rss1@news.jpl.nasa.gov>
Source record: 5197

Sal M. Onella wrote:
> This group has presented members with valuable lessons in antennas and
> transmission lines, like how to measure, how to match, etc.
>
> Something I haven't seen is a discussion of the source impedance of
> the transmitter. My curiosity was piqued today as I took some baby
> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> While this is hardly news, it got me wondering whether a 75-ohm cable
> will load the transmitter the same. Doesn't seem like it.
>
> My point: Using 75-ohm cable to improve the match at the antenna
> won't help me ... IF ... I suffer a corresponding loss due to
> mismatch at the back of the radio. My HF radios, all solid state,
> specify a 50 ohm load. As necessary, I routinely use an internal
> autotuner and either of two external manual tuners. (I'm aware of the
> published 1/12 wavelength matching method.)
>
> Wisdom in any form would be appreciated. Thanks.
>
> "Sal"
> (KD6VKW)

I suspect that most ham transmitters do NOT have a 50 ohm output impedance. What they do have is a specification that they will adequately drive a 50 ohm load (and some sort of internal circuitry that detects an "unacceptable" output condition and turns down the drive).

After all, your transmitter could have an output impedance of zero ohms (a "stiff" voltage source), and adequately drive your transmission line and antenna at 50 ohms (yes, this is not the optimum power transfer, but nobody ever said that ham transmitters are designed for optimum power transfer... maybe they're perfectly happy with less transfer, but still operating within their safe area)

ON9CVD made some simple measurements using a couple of resistors and foudn that a TS440 has a Zout somewhere around 15-40 ohms (depending on frequency and output power).
http://sharon.esrac.ele.tue.nl/~on9cvd/E-Uitgangsimpedantie.htm

Grant Bingeman also has words on this:
http://www.km5kg.com/loads.htm

897. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 08:59:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lovcr6dk9s1ahrjr95frcovtkqbbh4nuq2@4ax.com>
Source record: 5198

On Mon, 25 Apr 2011 17:35:29 -0700 (PDT), "Sal M. Onella"
<sobars@cox.net> wrote:

>Something I haven't seen is a discussion of the source impedance of
>the transmitter.

sigh....

>My point: Using 75-ohm cable to improve the match at the antenna
>won't help me ... IF ... I suffer a corresponding loss due to
>mismatch at the back of the radio.

Hi OM,

Look at the prospective SWR and how much is
lost/reflected/absorbed/what-have-you? More heat comes from a less
than optimal system efficiency than what your computation will reveal.
So much that it will swamp it.

But the trick here is that the reflected "power" (arguments turn on
this word) doesn't always mean heat and it could actually cool -
however hot or cold it may alter the situation, that same "power"
never got out into the air.

Now, as for source impedance, that is a subject fraught with denial in
the face of the obvious: Those fins in the back of your rig are to
help bookend your QSL cards into groups (the heat bears no relation to
efficiency nor match loss).

A standard definition (courtesy of Wikipedia) for Return Loss is:
where Zs is the impedance toward the source and
Zl is the impedance toward the load.
and we find from the values you supply that it is
0.20

Of course, such a definition is utterly useless when the concept of Zs
is replaced with (in most cases) "it ain't 50 Ohms, thet's fur
shure").

If, perchance, some brave soul steps into the breach of NOT 50 Ohms to
suggest what Zs is, then we can give it the acid test of engineering
(an act that I am usually reminded is beyond the understanding of
readers and the province of discussion here). Let's be gentle and go
only by an order of two (which is reasonably available and can be
coaxed out of my TS-440). Return loss for a rig exhibiting an Zs of
25 Ohms into the 75 Ohm line (presuming it is infinite in length)
would give us:

0.50
that doesn't look good, so let's try Zs of 100 Ohms:
0.14
that looks better all 'round. Even intuition agrees.

Let's press intuition to the proximal limit and say that Zs is 74 Ohms
(yes, my thumb is on the scale):
0.01

What does intuition affirm? What is preferable?

73's
Richard Clark, KB7QHC

898. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 14:20:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6bf47c7c-a5fc-4786-8cf1-d27c562e2ef0@22g2000prx.googlegroups.com>
Source record: 5199

On Apr 25, 7:35 pm, "Sal M. Onella" <sob...@cox.net> wrote:
> Wisdom in any form would be appreciated. Thanks.

Have you seen these?

http://www.w2du.com/QEXMayJun01.pdf

http://www.w2du.com/Appendix12.pdf

http://www.w2du.com/r3ch19a.pdf
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

899. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 15:44:36 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <805f54f2-b6c9-48c2-95a2-3c15842372a0@28g2000yqu.googlegroups.com>
Source record: 5200

On 26 abr, 02:35, "Sal M. Onella" <sob...@cox.net> wrote:
> This group has presented members with valuable lessons in antennas and
> transmission lines, like how to measure, how to match, etc.
>
> Something I haven't seen is a discussion of the source impedance of
> the transmitter. My curiosity was piqued today as I took some baby
> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> with a 50-ohm cable and a different value if fed with a 75-ohm cable.
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> While this is hardly news, it got me wondering whether a 75-ohm cable
> will load the transmitter the same. Doesn't seem like it.
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> My point: Using 75-ohm cable to improve the match at the antenna
> won't help me ... IF ... I suffer a corresponding loss due to
> mismatch at the back of the radio. My HF radios, all solid state,
> specify a 50 ohm load. As necessary, I routinely use an internal
> autotuner and either of two external manual tuners. (I'm aware of the
> published 1/12 wavelength matching method.)
>
> Wisdom in any form would be appreciated. Thanks.
>
> "Sal"
> (KD6VKW)

Hello Sal,

Make yourself up for a long discussion (as we had such a thread
earlier).

Most amplifiers are designed just to provide the desired amount of
power into a certain load. The actual output impedance of the
amplifier is not important in many cases. Changing the load impedance
(for example in case of a solid state amplifier) may result in less or
more heat generated in the active device(s). You can see this by
changing the load (for example with an external matcher between power
meter and PA) and watching the output power and current consumption.

If you have an amplifier with tunable output section (vacuum tube PA),
you are within the range of the tuner, and you tune it for maximum
output power (given certain drive), the output impedance equals the
load impedance (or conjugated value in case of non-ohmic load). If
you change the drive (so adjust the output power), the output
impedance may change (due to saturation issues). Same is valid for the
load, if you change the load, voltage across and current through the
active device may saturate, hence changing the output impedance.

Non-tunable amplifiers (for example a 3…30 MHz balanced amplifier) will mostly not present 50 Ohms to your load (unless specially designed for that using feedback).

Virtually all high-efficient switching amplifiers do not show 50 Ohms to the load. If you add an external tuner and match to maximum output power, you will very likely destroy the amplifier in case of no supervisory circuits present.

You can do some experiments with your own amplifiers. Just change the load impedance and see what the forward power indicator on your reflectometer/VSWR meter does. If it doesn't change, your output impedance is very close to 50 Ohms.

Measuring the output impedance (for relative small change in load) is possible, but is not a simple task. Very likely other people will comment on this.

With kind regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely.

900. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 20:12:23 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ip78tq$hu5$1@news.jpl.nasa.gov>
Source record: 5105

Ralph Mowery wrote:
> "Sal M. Onella" <sobars@cox.net> wrote in message
> news:7634e01d-847f-48ea-be5b-17d56c7c2329@k3g2000prl.googlegroups.com...
>> This group has presented members with valuable lessons in antennas and
>> transmission lines, like how to measure, how to match, etc.
>>
>> Something I haven't seen is a discussion of the source impedance of
>> the transmitter. My curiosity was piqued today as I took some baby
>> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
>> with a 50-ohm cable and a different value if fed with a 75-ohm cable.
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>> While this is hardly news, it got me wondering whether a 75-ohm cable
>> will load the transmitter the same. Doesn't seem like it.
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>> My point: Using 75-ohm cable to improve the match at the antenna
>> won't help me ... IF ... I suffer a corresponding loss due to
>> mismatch at the back of the radio. My HF radios, all solid state,
>> specify a 50 ohm load. As necessary, I routinely use an internal
>> autotuner and either of two external manual tuners. (I'm aware of the
>> published 1/12 wavelength matching method.)
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>> Wisdom in any form would be appreciated. Thanks.
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>> "Sal"
>> (KD6VKW)
>
> A transmitter output impedance is designed for maximum power transfer at a
> specific impedance. Most of the the older tube transmitters impedance was
> tunable within a range.
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> In simple terms the impedance of the transmitter tube is the plate voltage
> devided by the current. This impedance is then transformed to the nominal
> 50 ohms of the antenna system. If the transmitter has the usual tune and
> load controls, the exect impedance will not mater as you adjust for maximum
> transmitter output.
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> Most of the transistor transmitters are not adjustable so the output
> impedance is usually fixed at 50 ohms for maximum power transfer. If the
> impedance of the antenna system is not 50 ohms, then the output power will
> be less than the designed output. You can use the antenna tuner to adjust
> for a match.
>
>
Not exactly..

A "match" provides the optimum power transfer from generator to load, but that is NOT the maximum load power, nor is it either the maximum or minimum power dissipated in the source.

Say I have a zero output impedance on my source and I'm putting out 7 Volts RMS into a 50 ohm load. That's about 1 watt into the load. Now.. if I reduce the load impedance to 25 ohms, and since I've got zero output impedance, I'm now putting out 2 Watts. The source impedance is zero, so I'm not dissipating any extra power in the source, either.

It is true that a "matched load" to my zero ohm source would, in fact, be zero ohms, and would have infinite power. Any other load impedance would have less power into the load, so the Thevenin theorem is satisfied.

Now.. if my generator had a fixed output impedance, it's true that the load impedance that will get the most power out is the conjugate of the output Z. For resistive sources/loads, here's an example..

You also have to be careful about looking at Thevenin equivalent sources (e.g. a ideal voltage in series with a Z, or a ideal current in parallel with a Z), because just because *the model* has a resistor in series does NOT mean that you're actually dissipating any power in the source. (If I had a very efficient op amp, I could simulate any arbitrary output impedance, without dissipating any power in the source)

Say my generator is 40 ohms, and I'm putting out 7 Volts into a 40 ohm load. OK, that means that the imaginary voltage source is putting out 14 V. I'm getting about 1.23 Watts into my load. Now, if I decrease my load Z to 20 ohms, what do I get? Now, I have 4.67 (=14/3) Volts instead of 7, and I get 1.1 Watts. Yep, less.. Thevenin works. Let's try increasing the Z to 60 ohms.. Now the voltage on my load is 8.4 V, and I'm dissipating 1.18W, again, less than my 1.23.

But here's some weird stuff.. let's look at how much power is dissipated in that imaginary resistor (i.e. our source *really is* a ideal voltage source in series with a resistor)

At 40 ohm load, we've got 7 volts on the load and 7 volts across the resistor, so they both dissipate the same 1.225 Watts. Pload/Pgen = 1

In the 20 ohm load case, we've got 1.1 dissipated in the load and 2.2 dissipated in the generator. Pload/Pgen = 0.5

In the 60 ohm load case, we've got 1.18 dissipated in the load, and 0.78 dissipated in the generator. Pload/Pgen = 1.5 (i.e. we dissipate more in the load than in the generator... how about that!)

And let's look at "efficiency" of the system (assuming that the total power in is the sum of what's dissipated in the generator and the load)

20 ohm load, 33%
40 ohm load, 50% (what you'd expect)
60 ohm load, 60% (hey.. it's more efficient, too)

-> take home message... a "good match" is sort of an artificial thing from a power transfer standpoint.. it depends on what you're trying to optimize for.

-> Where you get bitten is when "match" varies with frequency... now, all of a sudden, you have a system that has a response that varies with frequency, which is generally undesirable. When you get up into the microwave region, where a transmission line is often many wavelengths long, that mismatch can result in remarkably wild fluctuations in gain with respect to frequency.

901. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 20:21:06 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ip79e5$i3c$1@news.jpl.nasa.gov>
Source record: 5103

> Measuring the output impedance (for relative small change in load) is
> possible, but is not a simple task. Very likely other people will
> comment on this.
>

ON9CVD's website I linked to has a very simple technique.. 50 ohm dummy load and a 220 ohm resistor you can switch in.

At 100W (into 50 ohms), the 220 ohms would only dissipate 22W. You could get some of those non-inductive resistors from Caddock and series them up to do something like this.

BTW, this is a simplified version of what's called a "load pull" test... which makes me wonder if one could cobble up a quick test set that could be controlled by a computer to do automated output Z measurements of an HF transceiver over a reasonably wide range... One approach would be to use a RS-232 controlled antenna tuner and, maybe, a antenna relay box with several different load resistances).

The challenge (having actually looked at doing this with a LDG AT200PC) is that the Z of the tuner isn't very well defined. It's a pretty big calibration project in itself.

Maybe, though, one could build a few test dummy loads.. say a 25 ohm and a 75 or 100 ohm, along with your vanilla 50 ohm, and the antenna switch (like an RCS-8V). Basically, you're building a "high power resistor substitution box"

You'd want some sort of nice inline watt meter (like an LP100) to make the measurements.

902. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 20:23:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ip79i6$i3c$2@news.jpl.nasa.gov>
Source record: 5104

```
Jim Lux wrote:
> Ralph Mowery wrote:
>> "Sal M. Onella" <sobars@cox.net> wrote in message
>> news:7634e01d-847f-48ea-be5b-17d56c7c2329@k3g2000prl.googlegroups.com...
>>> This group has presented members with valuable lessons in antennas and
>>> transmission lines, like how to measure, how to match, etc.
>>>
>>> Something I haven't seen is a discussion of the source impedance of
>>> the transmitter. My curiosity was piqued today as I took some baby
>>> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
>>> with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>>>
>>> While this is hardly news, it got me wondering whether a 75-ohm cable
>>> will load the transmitter the same. Doesn't seem like it.
>>>
>>> My point: Using 75-ohm cable to improve the match at the antenna
>>> won't help me ... IF ... I suffer a corresponding loss due to
>>> mismatch at the back of the radio. My HF radios, all solid state,
>>> specify a 50 ohm load. As necessary, I routinely use an internal
>>> autotuner and either of two external manual tuners. (I'm aware of the
>>> published 1/12 wavelength matching method.)
>>>
>>> Wisdom in any form would be appreciated. Thanks.
>>>
>>> "Sal"
>>> (KD6VKW)
>>
>> A transmitter output impedance is designed for maximum power transfer
>> at a specific impedance. Most of the the older tube transmitters
>> impedance was tunable within a range.
>>
>> In simple terms the impedance of the transmitter tube is the plate
>> voltage devided by the current. This impedance is then transformed to
>> the nominal 50 ohms of the antenna system. If the transmitter has the
>> usual tune and load controls, the exect impedance will not mater as
>> you adjust for maximum transmitter output.
>>
>> Most of the transistor transmitters are not adjustable so the output
>> impedance is usually fixed at 50 ohms for maximum power transfer. If
>> the impedance of the antenna system is not 50 ohms, then the output
>> power will be less than the designed output. You can use the antenna
>> tuner to adjust for a match.
>>
>>
```

> Not exactly..
>
> A "match" provides the optimum power transfer from generator to load,
> but that is NOT the maximum load power, nor is it either the maximum or
> minimum power dissipated in the source.
>
> Say I have a zero output impedance on my source and I'm putting out 7
> Volts RMS into a 50 ohm load. That's about 1 watt into the load. Now..
> if I reduce the load impedance to 25 ohms, and since I've got zero
> output impedance, I'm now putting out 2 Watts. The source impedance is
> zero, so I'm not dissipating any extra power in the source, either.
>
> It is true that a "matched load" to my zero ohm source would, in fact,
> be zero ohms, and would have infinite power. Any other load impedance
> would have less power into the load, so the Thevenin theorem is satisfied.
>
>
> Now.. if my generator had a fixed output impedance, it's true that the
> load impedance that will get the most power out is the conjugate of the
> output Z. For resistive sources/loads, here's an example..
>
> You also have to be careful about looking at Thevenin equivalent sources
> (e.g. a ideal voltage in series with a Z, or a ideal current in parallel
> with a Z), because just because *the model* has a resistor in series
> does NOT mean that you're actually dissipating any power in the source.
> (If I had a very efficient op amp, I could simulate any arbitrary output
> impedance, without dissipating any power in the source)
>
>
> Say my generator is 40 ohms, and I'm putting out 7 Volts into a 40 ohm
> load. OK, that means that the imaginary voltage source is putting out
> 14 V. I'm getting about 1.23 Watts into my load. Now, if I decrease my
> load Z to 20 ohms, what do I get? Now, I have 4.67 (=14/3) Volts
> instead of 7, and I get 1.1 Watts. Yep, less.. Thevenin works. Let's
> try increasing the Z to 60 ohms.. Now the voltage on my load is 8.4 V,
> and I'm dissipating 1.18W, again, less than my 1.23.
>
> But here's some weird stuff.. let's look at how much power is dissipated
> in that imaginary resistor (i.e. our source *really is* a ideal voltage
> source in series with a resistor)
>
> At 40 ohm load, we've got 7 volts on the load and 7 volts across the
> resistor, so they both dissipate the same 1.225 Watts. Pload/Pgen = 1
>
> In the 20 ohm load case, we've got 1.1 dissipated in the load and 2.2
> dissipated in the generator. Pload/Pgen = 0.5
>
> In the 60 ohm load case, we've got 1.18 dissipated in the load, and 0.78
> dissipated in the generator. Pload/Pgen = 1.5 (i.e. we dissipate more
> in the load than in the generator... how about that!)

>
> And let's look at "efficiency" of the system (assuming that the total
> power in is the sum of what's dissipated in the generator and the load)
>
> 20 ohm load, 33%
> 40 ohm load, 50% (what you'd expect)
> 60 ohm load, 60% (hey.. it's more efficient, too)
>
> -> take home message... a "good match" is sort of an artificial thing
> from a power transfer standpoint.. it depends on what you're trying to
> optimize for.
>
> -> Where you get bitten is when "match" varies with frequency... now,
> all of a sudden, you have a system that has a response that varies with
> frequency, which is generally undesirable. When you get up into the
> microwave region, where a transmission line is often many wavelengths
> long, that mismatch can result in remarkably wild fluctuations in gain
> with respect to frequency.
>

Vgen	Rgen	Rload	V load	I load	P load	Pgen	Pload/Pgen	Ptotal	Pload/Ptotal
10	40	20	3.33	0.17	0.56	1.11	0.50	1.67	0.33
10	40	40	5.00	0.13	0.63	0.63	1.00	1.25	0.50
10	40	60	6.00	0.10	0.60	0.40	1.50	1.00	0.60

903. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 20:34:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4e2ce6b5-6339-4da2-93ab-cee24e5d2fda@u12g2000prn.googlegroups.com>
Source record: 5101

On Apr 26, 10:44 am, Wimpie <wimabc...@tetech.nl> wrote:
> The actual output impedance of the
> amplifier is not important in many cases.

Yes, consider a source with 70.7 volts at its output terminals
connected to a 50 ohm load through a 50 ohm feedline. Except for
source efficiency, the source impedance simply doesn't matter. Any
70.7 volt source will deliver 100 watts to the feedline no matter what
the source impedance.

There's a simple method called load-pulling. Keeping everything the
same at the source, if the power to the load increases when the load
is changed away from 50 ohms, the source doesn't have a 50 ohm
internal impedance.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

904. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 20:52:38 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <da3a8179-d28e-40b1-b5cf-92dbe92028c8@a19g2000prj.googlegroups.com>
Source record: 5102

On Apr 26, 7:20 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Apr 25, 7:35 pm, "Sal M. Onella" <sob...@cox.net> wrote:
>
> > Wisdom in any form would be appreciated. Thanks.
>
> Have you seen these?
>
> http://www.w2du.com/QEXMayJun01.pdf
>
> http://www.w2du.com/Appendix12.pdf
>
> http://www.w2du.com/r3ch19a.pdf
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Well, I have _now_! 'Twill take just a bit of time to digest them.
Thanks.

"Sal"

905. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 21:30:41 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <a681d717-806c-4e48-9dc4-73322256151f@28g2000yqu.googlegroups.com>
Source record: 5106

On 26 abr, 02:59, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "Sal M. Onella" <sob...@cox.net> wrote in
messagenews:7634e01d-847f-48ea-be5b-17d56c7c2329@k3g2000prl.googlegroups.com...
>
>
>
> > This group has presented members with valuable lessons in antennas and
> > transmission lines, like how to measure, how to match, etc.
>
> > Something I haven't seen is a discussion of the source impedance of
> > the transmitter. My curiosity was piqued today as I took some baby
> > steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> > with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> > While this is hardly news, it got me wondering whether a 75-ohm cable
> > will load the transmitter the same. Doesn't seem like it.
>
> > My point: Using 75-ohm cable to improve the match at the antenna
> > won't help me ... IF ... I suffer a corresponding loss due to
> > mismatch at the back of the radio. My HF radios, all solid state,
> > specify a 50 ohm load. As necessary, I routinely use an internal
> > autotuner and either of two external manual tuners. (I'm aware of the
> > published 1/12 wavelength matching method.)
>
> > Wisdom in any form would be appreciated. Thanks.
>
> > "Sal"
> > (KD6VKW)
>
> A transmitter output impedance is designed for maximum power transfer at a
> specific impedance. Most of the the older tube transmitters impedance was
> tunable within a range.
>
> In simple terms the impedance of the transmitter tube is the plate voltage
> devided by the current. This impedance is then transformed to the nominal
> 50 ohms of the antenna system. If the transmitter has the usual tune and
> load controls, the exect impedance will not mater as you adjust for maximum
> transmitter output.
>
> Most of the transistor transmitters are not adjustable so the output
> impedance is usually fixed at 50 ohms for maximum power transfer. If the
> impedance of the antenna system is not 50 ohms, then the output power will
> be less than the designed output. You can use the antenna tuner to adjust
> for a match.

Hello Ralph,

The actual output impedance can be anything, but is mostly not 50 Ohms. If you want it close to 50 Ohms, you have to spend money in components and design time. As 50 Ohms isn't mostly required, one will not design for that.

Just as an example, take a hard-driven totem pole or push pull stage with only a series tuned circuit to suppress harmonics (so the LC circuit shows zero ohms at the carrier frequency). As the active devices are used a switches, the output impedance of this arrangement is almost zero (at least far below 50 Ohms).

When you connect a 50 Ohms quarter-wave cable between the output and the 50 Ohms load, the amplifier-cable combination has very high output impedance (quarter wave transformer formula).

For power amplifiers, there is no relation between actual output impedance and efficiency. When an amplifier is designed for 50 Ohms, it only means that the amplifier will work correctly when terminated with 50 Ohms. When you deviate from that, output power may decrease or increase. This may result in more or less stress on the amplifier's components.

With kind regards,

Wim
PA3DJS
www.tetech.nl

906. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 21:37:58 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <db5d43a7-f025-40c1-a7a3-0bef5124a1f9@l2g2000prg.googlegroups.com>
Source record: 5107

On Apr 26, 1:59 am, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 25 Apr 2011 17:35:29 -0700 (PDT), "Sal M. Onella"
>
> <sob...@cox.net> wrote:
> >Something I haven't seen is a discussion of the source impedance of
> >the transmitter.
>
> sigh....
>
> >My point: Using 75-ohm cable to improve the match at the antenna
> >won't help me ... IF ... I suffer a corresponding loss due to
> >mismatch at the back of the radio.
>
> Hi OM,
>
> Look at the prospective SWR and how much is
> lost/reflected/absorbed/what-have-you? More heat comes from a less
> than optimal system efficiency than what your computation will reveal.
> So much that it will swamp it.
>
> But the trick here is that the reflected "power" (arguments turn on
> this word) doesn't always mean heat and it could actually cool -
> however hot or cold it may alter the situation, that same "power"
> never got out into the air.
>
> Now, as for source impedance, that is a subject fraught with denial in
> the face of the obvious: Those fins in the back of your rig are to
> help bookend your QSL cards into groups (the heat bears no relation to
> efficiency nor match loss).
>
> A standard definition (courtesy of Wikipedia) for Return Loss is:
>   where Zs is the impedance toward the source and
>   Zl is the impedance toward the load.
> and we find from the values you supply that it is
>   0.20
>
> Of course, such a definition is utterly useless when the concept of Zs
> is replaced with (in most cases) "it ain't 50 Ohms, thet's fur
> shure").
>
> If, perchance, some brave soul steps into the breach of NOT 50 Ohms to
> suggest what Zs is, then we can give it the acid test of engineering
> (an act that I am usually reminded is beyond the understanding of
> readers and the province of discussion here). Let's be gentle and go

> only by an order of two (which is reasonably available and can be
> coaxed out of my TS-440). Return loss for a rig exhibiting an Zs of
> 25 Ohms into the 75 Ohm line (presuming it is infinite in length)
> would give us:
>   0.50
> that doesn't look good, so let's try Zs of 100 Ohms:
>   0.14
> that looks better all 'round. Even intuition agrees.
>
> Let's press intuition to the proximal limit and say that Zs is 74 Ohms
> (yes, my thumb is on the scale):
>   0.01
>
> What does intuition affirm? What is preferable?
>
> 73's
> Richard Clark, KB7QHC

Thanks Richard. Intuition is that the Zs is near 50 ohms for as many frequencies as the designer can manage. I am on record (including in this group) of letting intuition lead me down the path to ruin.

I get from you that there's a presupposition that I know the source impedance or can easily establish it. Hm-m-m ... not so. One big problem I see is the need to try to measure power delivered in a non-50-ohm system with my existing instruments that depend on a 50-ohm system. I don't have a nominal 75-ohm power meter. Won't putting a 50-ohm meter into a 75-ohm circuit not only read wrong but introduce reflection losses, too?

I think I'd need a collection of non-inductive load resistors and an accurate rf ammeter. I'd need to connect them and calculate power at a few points in every band.

Maybe the papers that Cecil cited for me will fill in the gaps or suggest other approaches.

"Sal"

907. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 21:45:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ukder6d3u15j9fbjrikh54k668r0ll8nud@4ax.com>
Source record: 5108

On Tue, 26 Apr 2011 13:12:23 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>(If I had a very efficient op amp, I could simulate any arbitrary output
>impedance, without dissipating any power in the source)

I can see why this is parenthetical, because it covers a lot of sins
of omission.

First we bang up against the wall of Gain Bandwidth Product. If you
are talking about resistive loads at low power DC, then your statement
is trivially valid.

Second, the ability to "simulate" any arbitrary output (or input for
that matter) impedance for an OP AMP is well defined in the closed
loop gain (which robs from the open loop gain for frequency by
proportion to GBP).

Taking the conventional RF Power Deck of any consumer (Ham) product,
the similarity to an OP AMP is wholly foreign, and for good and
commercial reason. If one were motivated to engineer in the necessary
noise amplifier (a term coined by H.W. Bode who defined this topic of
source Z and applied it to the negative gain or feedback path); then
we would find that the exact same loss is exhibited in the exact same
component(s).

However, by virtue of OP AMP characteristics we would benefit to
vastly better distortion figures, far less spurious content, and
virtually no need for either the conventional impedance transformer,
nor the bandwidth filter that follows the same power deck (provided,
of course, that the drive input is sinusoidal - which it never is,
unfortunately, for this scenario). This novel OP-AMP/Power-Deck
redesign would also confer considerable power supply rejection (that
voltage could sag or rise without appreciable effect) and noise
rejection (the internal noise from other circuitry would not migrate
into the signal output). ALL such benefits are strictly derived from
the amount of negative feedback (not to be confused, as are many
readers to this topic, with the rather ordinary compensation cap in
the last stage).

Why isn't this done as a service to the customer?

Cost.

Again, OP AMP design merits are paid for in lost gain and bandwidth.
The price is found in the amount of negative feedback that goes to
lower the overall amplification. Would you pay for this improved cool

performance to run 10W in the 80M band from a formerly crackly and hot
100W 10-80M band capable source?

73's
Richard Clark, KB7QHC

908. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 21:49:12 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <e0889b7b-febd-4a64-a39c-fbd48c083366@k5g2000yqj.googlegroups.com>
Source record: 5109

On 26 abr, 22:21, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> > Measuring the output impedance (for relative small change in load) is
> > possible, but is not a simple task. Very likely other people will
> > comment on this.
>
> ON9CVD's website I linked to has a very simple technique.. 50 ohm dummy
> load and a 220 ohm resistor you can switch in.
>
> At 100W (into 50 ohms), the 220 ohms would only dissipate 22W. You
> could get some of those non-inductive resistors from Caddock and series
> them up to do something like this.
>
> BTW, this is a simplified version of what's called a "load pull" test...
> which makes me wonder if one could cobble up a quick test set that could
> be controlled by a computer to do automated output Z measurements of an
> HF transceiver over a reasonably wide range... One approach would be to
> use a RS-232 controlled antenna tuner and, maybe, a antenna relay box
> with several different load resistances).
>
> The challenge (having actually looked at doing this with a LDG AT200PC)
> is that the Z of the tuner isn't very well defined. It's a pretty big
> calibration project in itself.
>
> Maybe, though, one could build a few test dummy loads.. say a 25 ohm and
> a 75 or 100 ohm, along with your vanilla 50 ohm, and the antenna switch
> (like an RCS-8V). Basically, you're building a "high power resistor
> substitution box"
>
> You'd want some sort of nice inline watt meter (like an LP100) to make
> the measurements.

Hello Jim,

Other method is injecting a slightly off-carrier frequency signal into
the amplifier (this emulates a constant small VSWR shown to the PA
(wtih 50 Ohms load), but with continuous varying phase). Because of
the difference in frequency, one can measure the forward (towards the
PA) and reverse (reflected by PA) signal with a two channel VSA.
This will give you the PA's complex output impedance.

Tom (K7ITM from my head) did this with a HP89410 with couplers.

With kind regards,

Wim
PA3DJS

www.tetech.nl

909. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 21:57:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j8fer6h27an8vh0vu7o3qumcd4d5vh219u@4ax.com>
Source record: 5110

On Tue, 26 Apr 2011 14:37:58 -0700 (PDT), "Sal M. Onella"
<sobars@cox.net> wrote:

>Thanks Richard. Intuition is that the Zs is near 50 ohms for as many
>frequencies as the designer can manage. I am on record (including in
>this group) of letting intuition lead me down the path to ruin.

Well, if you miss the path, you are certain to be reminded where it
is.

>I get from you that there's a presupposition that I know the source
>impedance or can easily establish it. Hm-m-m ... not so.

It is printed in the specifications. There are other ways to derive
it, of course, and they would merely confirm that number.

>One big
>problem I see is the need to try to measure power delivered in a
>non-50-ohm system with my existing instruments that depend on a 50-ohm
>system. I don't have a nominal 75-ohm power meter. Won't putting a
>50-ohm meter into a 75-ohm circuit not only read wrong but introduce
>reflection losses, too?

It is easier to measure voltage and current and use your calculator.
Now having said that, measuring voltage and current is damned hard at
HF. It is achievable with care, but now we are back into your same
question with many hands pointing at that path to ruin.

As both are difficult (power or voltage times current), you could
trust authority (which confirms what is intuitive), or you could
listen to argument (which at the distance of time and recall becomes
murky and opaque).

>I think I'd need a collection of non-inductive load resistors and an
>accurate rf ammeter. I'd need to connect them and calculate power at
>a few points in every band.

Bravo! This reduces complexity because RF Power resistors of high
accuracy and bandwidth are commercially available. You will need to
practice your skill at mounting to a heat sink, however (another
non-trivial achievement).

>Maybe the papers that Cecil cited for me will fill in the gaps or
>suggest other approaches.

Walt and I have been corresponding over these matters just these past
two weeks. Skimming that content will once again confirm intuition.

73's
Richard Clark, KB7QHC

910. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 22:27:28 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ip7gr3$k9d$1@news.jpl.nasa.gov>
Source record: 5111

Richard Clark wrote:
> On Tue, 26 Apr 2011 13:12:23 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> (If I had a very efficient op amp, I could simulate any arbitrary output
>> impedance, without dissipating any power in the source)
>
> I can see why this is parenthetical, because it covers a lot of sins
> of omission.

yep.. not possible to build such a thing, anymore than one can build a
zero ohm output impedance RF source with any signficant power.
Suggested more as an example that the power dissipation in the source
doesn't necessarily correlate with match, load Z, or anything else in
general.

(You can get pretty darn close at powers less than a watt and HF, though..)

>
> However, by virtue of OP AMP characteristics we would benefit to
> vastly better distortion figures, far less spurious content, and
> virtually no need for either the conventional impedance transformer,
> nor the bandwidth filter that follows the same power deck (provided,
> of course, that the drive input is sinusoidal - which it never is,
> unfortunately, for this scenario). This novel OP-AMP/Power-Deck
> redesign would also confer considerable power supply rejection (that
> voltage could sag or rise without appreciable effect) and noise
> rejection (the internal noise from other circuitry would not migrate
> into the signal output). ALL such benefits are strictly derived from
> the amount of negative feedback (not to be confused, as are many
> readers to this topic, with the rather ordinary compensation cap in
> the last stage).

One can also do a lot of this with various clever schemes if the input
to your PA is coming out of some signal processing. Generically,
predistortion, but it can be so much more.
People have literally spent their lives working out ever more
sophisticated approaches

>
> Why isn't this done as a service to the customer?
>
> Cost.

Like race cars... how fast do you want to go..just bring money

911. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 22:34:47 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ip7h8pkej1@news.jpl.nasa.gov>
Source record: 5112

Wimpie wrote:
> On 26 abr, 22:21, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>>> Measuring the output impedance (for relative small change in load) is
>>> possible, but is not a simple task. Very likely other people will
>>> comment on this.
>> ON9CVD's website I linked to has a very simple technique.. 50 ohm dummy
>> load and a 220 ohm resistor you can switch in.
>>
>> At 100W (into 50 ohms), the 220 ohms would only dissipate 22W. You
>> could get some of those non-inductive resistors from Caddock and series
>> them up to do something like this.
>>
>> BTW, this is a simplified version of what's called a "load pull" test...
>> which makes me wonder if one could cobble up a quick test set that could
>> be controlled by a computer to do automated output Z measurements of an
>> HF transceiver over a reasonably wide range... One approach would be to
>> use a RS-232 controlled antenna tuner and, maybe, a antenna relay box
>> with several different load resistances).
>>
>> The challenge (having actually looked at doing this with a LDG AT200PC)
>> is that the Z of the tuner isn't very well defined. It's a pretty big
>> calibration project in itself.
>>
>> Maybe, though, one could build a few test dummy loads.. say a 25 ohm and
>> a 75 or 100 ohm, along with your vanilla 50 ohm, and the antenna switch
>> (like an RCS-8V). Basically, you're building a "high power resistor
>> substitution box"
>>
>> You'd want some sort of nice inline watt meter (like an LP100) to make
>> the measurements.
>
> Hello Jim,
>
> Other method is injecting a slightly off-carrier frequency signal into
> the amplifier (this emulates a constant small VSWR shown to the PA
> (wtih 50 Ohms load), but with continuous varying phase). Because of
> the difference in frequency, one can measure the forward (towards the
> PA) and reverse (reflected by PA) signal with a two channel VSA.
> This will give you the PA's complex output impedance.
>
>

Yes.. that's another way to do it.

I think one would want variable load impedances for the testing in any case, because I'll bet that most ham rigs have a load dependent Z.

I've occasionally kicked around the idea of what would it take to do it simply, especially with nifty devices becoming available to help with the measurements.. $500 VNAs, $400 power meters that directly read current and voltage, etc.

What I'm not sure about is whether it is "useful" to know. Consider a ham with a manual or auto tuner. They'll adjust for minimum reflected power, which is probably as good as anything else. Hams, as a class, don't much care about "DC power to RF radiated" efficiency (because the regulatory requirements are imposed at the "RF output" measurement plane..

Power dissipation in the PA is only a second order concern.. can I plug it into a standard outlet? Will it get too hot in my car?

backpack QRPers are concerned about DC power consumption, but I'm not sure they're worried about whether their PA is 30% or 35% efficient.

The people designing battery powered tracking transmitters ARE concerned about this, as are high power broadcasters (since they're both directly paying for the supply power and have a "radiated RF power" requirement to meet their need).

912. Re: OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-26 23:51:44 UTC
From: "Stuart Longland (VK4MSL)" <me@vk4msl.yi.org>
Message-ID: <d1ff0423-733c-4396-9b64-76d028c42f98@f15g2000pro.googlegroups.com>
Source record: 5113

You might want to consider moving this across to
rec.radio.amateur.homebrew or similar, this is more to do with the
antennas rather than the devices producing the signals themselves (the
transceivers).

On Apr 26, 6:35 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> DerbyDad03 wrote:
> > I might be asking my question in the wrong group, so feel free to send
> > me packing if I am.
>
> > The background:
>
> > Our high school just installed a scoreboard for our new Varsity Softball
> > field. The scoreboard controller talks to the scoreboard via a cable
> > that has a 1/4" TRS plug on each end.
>
> >http://www.planetronic.es/images/ak2563.jpg

Looks like a standard 3.5mm headphone plug to me.

> You need to find out what kind of signals are carried over the cable?
> Is it some sort of serial data (very likely)? If so, then you should be
> able to find some sort of wireless data link that can handle the data
> rates and formats.

In other words, my approach; make up a cable that allows you to access
all three conductors between the plugs, and use an oscilloscope to
identify the signals and signalling rates. Given the distance I
wouldn't mind betting it'll be something along the lines of RS485. I
doubt they'd try SPI or RS232 over that distance.

> What does the scoreboard manufacturer offer? (This has to be a
> reasonably common problem..)

+1... before you potentially void warranty. There's likely a 2.4GHz
or 433MHz solution out there that will work and will be suitable for
your local areas radio spectrum bandplans.

913. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 00:52:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9vper6pbmhrjnbo6ihsds8jifnlcrjlsk7@4ax.com>
Source record: 5114

On Tue, 26 Apr 2011 15:27:28 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>>> (If I had a very efficient op amp, I could simulate any arbitrary output
>>> impedance, without dissipating any power in the source)
>>
>> I can see why this is parenthetical, because it covers a lot of sins
>> of omission.
>
>yep.. not possible to build such a thing, anymore than one can build a
>zero ohm output impedance RF source with any signficant power.
>Suggested more as an example that the power dissipation in the source
>doesn't necessarily correlate with match, load Z, or anything else in
>general.
>
>(You can get pretty darn close at powers less than a watt and HF, though..)

OP AMPs are a constant of my admiration in the possibilities offered.
That and the signal processing you suggest (plus digital oscillators)
"could" change the playing field - if conventional design weren't so
universally fallen back upon.

73's
Richard Clark, KB7QHC

914. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 01:44:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6250280b-f47e-4c5f-ad34-9b8b4e9a9126@x1g2000yqb.googlegroups.com>
Source record: 5115

On Apr 26, 4:49 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Other method is injecting a slightly off-carrier frequency signal into
> the amplifier (this emulates a constant small VSWR shown to the PA
> (wtih 50 Ohms load), but with continuous varying phase). Because of
> the difference in frequency, one can measure the forward (towards the
> PA) and reverse (reflected by PA) signal with a two channel VSA.
> This will give you the PA's complex output impedance.

Unfortunately, the impedance encountered by the off-carrier frequency
signal is probably not the same as the impedance encountered by the
carrier frequency so the results don't correlate and are not very
useful. The carrier frequency has interference components that the off-
carrier signal doesn't encounter.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

915. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 04:41:26 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <58985127-241f-4ba1-83cf-2b3fb79bd16a@d19g2000prh.googlegroups.com>
Source record: 5116

On Apr 25, 6:07 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Sal M. Onella wrote:
> > This group has presented members with valuable lessons in antennas and
> > transmission lines, like how to measure, how to match, etc.
>
> > Something I haven't seen is a discussion of the source impedance of
> > the transmitter. My curiosity was piqued today as I took some baby
> > steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> > with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> > While this is hardly news, it got me wondering whether a 75-ohm cable
> > will load the transmitter the same. Doesn't seem like it.
>
> > My point: Using 75-ohm cable to improve the match at the antenna
> > won't help me ... IF ... I suffer a corresponding loss due to
> > mismatch at the back of the radio. My HF radios, all solid state,
> > specify a 50 ohm load. As necessary, I routinely use an internal
> > autotuner and either of two external manual tuners. (I'm aware of the
> > published 1/12 wavelength matching method.)
>
> > Wisdom in any form would be appreciated. Thanks.
>
> > "Sal"
> > (KD6VKW)
>
> I suspect that most ham transmitters do NOT have a 50 ohm output
> impedance. What they do have is a specification that they will
> adequately drive a 50 ohm load (and some sort of internal circuitry that
> detects an "unacceptable" output condition and turns down the drive).
>
> After all, your transmitter could have an output impedance of zero ohms
> (a "stiff" voltage source), and adequately drive your transmission line
> and antenna at 50 ohms (yes, this is not the optimum power transfer, but
> nobody ever said that ham transmitters are designed for optimum power
> transfer... maybe they're perfectly happy with less transfer, but still
> operating within their safe area)
>
> ON9CVD made some simple measurements using a couple of resistors and
> foudn that a TS440 has a Zout somewhere around 15-40 ohms (depending on
> frequency and output
power).http://sharon.esrac.ele.tue.nl/~on9cvd/E-Uitgangsimpedantie.htm
>
> Grant Bingeman also has words on this:http://www.km5kg.com/loads.htm

I agree with Jim. While it's true that if a source (transmitter) is tuned for maximum output, the output impedance must necessarily be the conjugate of the load impedance, it is NOT generally the case that the transmitter is tuned for maximum output. Rather, the transmitter is tuned for an output that won't destroy the output devices and will result in acceptable distortion (in the case of a linear amplifier). There are plenty of cases of sources designed to be loaded with an impedance far different from their output (source) impedance: the AC power line, audio amplifiers, ...

A while back, I set up a couple precision high power directional couplers so I could measure the output impedance of a couple different ham rigs. In the case of the rig with vacuum tube output stage, if I operated the output stage with limited grid drive and tuned the plate tank for maximum output power, indeed the output impedance was 50 ohms, within the tolerance of my ability to adjust the output for maximum. But if I increased the grid drive for solid class-C operation and tuned for the rated output power (which is no longer the maximum possible power), the impedance seen at the output dropped. If you work through the pi-network transformation back to the vacuum tube plates, it's apparent that the plates under those operating conditions represent a considerably higher source impedance than when things are tuned for maximum available power (as first described).

But coming back to "Sal's" original question, it's always made sense to me given the availability of inexpensive 75 ohm line with low loss to go ahead and use it to feed antennas that have a feedpoint impedance closer to 75 ohms than to 50 ohms. If you need to provide a bit of matching at the transmitter end so that the transmitter is operating correctly, it should be straightforward to do that. But whether the actual source impedance of the transmitter is one value or another is really of very little importance. The only time I can think that it would matter is if you're trying to transmit a very broadband signal and you don't want power that's reflected at the transmission-line:antenna interface to re-reflect from the transmitter:transmission-line interface and go back to the antenna, delayed by enough to cause a "ghost" (in a television picture), for example. In such a case, you'll be well served by insuring that the antenna is well matched to the transmission line so there is an insignificant reflection there anyway.

Cheers,
Tom

916. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 05:05:31 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <9b79541c-9adb-4b73-8b66-4fbeda70af6c@x8g2000prh.googlegroups.com>
Source record: 5117

On Apr 26, 2:49 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 26 abr, 22:21, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
>
>
> > > Measuring the output impedance (for relative small change in load) is
> > > possible, but is not a simple task. Very likely other people will
> > > comment on this.
>
> > ON9CVD's website I linked to has a very simple technique.. 50 ohm dummy
> > load and a 220 ohm resistor you can switch in.
>
> > At 100W (into 50 ohms), the 220 ohms would only dissipate 22W. You
> > could get some of those non-inductive resistors from Caddock and series
> > them up to do something like this.
>
> > BTW, this is a simplified version of what's called a "load pull" test...
> > which makes me wonder if one could cobble up a quick test set that could
> > be controlled by a computer to do automated output Z measurements of an
> > HF transceiver over a reasonably wide range... One approach would be to
> > use a RS-232 controlled antenna tuner and, maybe, a antenna relay box
> > with several different load resistances).
>
> > The challenge (having actually looked at doing this with a LDG AT200PC)
> > is that the Z of the tuner isn't very well defined. It's a pretty big
> > calibration project in itself.
>
> > Maybe, though, one could build a few test dummy loads.. say a 25 ohm and
> > a 75 or 100 ohm, along with your vanilla 50 ohm, and the antenna switch
> > (like an RCS-8V). Basically, you're building a "high power resistor
> > substitution box"
>
> > You'd want some sort of nice inline watt meter (like an LP100) to make
> > the measurements.
>
> Hello Jim,
>
> Other method is injecting a slightly off-carrier frequency signal into
> the amplifier (this emulates a constant small VSWR shown to the PA
> (wtih 50 Ohms load), but with continuous varying phase). Because of
> the difference in frequency, one can measure the forward (towards the
> PA) and reverse (reflected by PA) signal with a two channel VSA.
> This will give you the PA's complex output impedance.
>

> Tom (K7ITM from my head) did this with a HP89410 with couplers.
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

Yep, 'twas me. Using the 89410, I can resolve a signal removed from the transmitter's output by a very small frequency offset, so it's well within the bandwidth of the transmitter. With synchronous averaging, the injected signal could be one or two Hz away from the transmitted carrier, though it helps a lot to have a transmitter running from a really "clean" (low phase noise) source if you're going to do that. The injected signal can be many tens of dB lower in amplitude than the transmitted signal. As I recall, I was using a signal a kHz or so away from the carrier, still well within the bandwidth of the RF power amplifier. One thing you have to be careful about is either disabling ALC, or operating well outside the ALC loop bandwidth; you don't want the ALC screwing up your results.

As Wim points out, this setup presents a load to the RF power amplifier that's indistinguishable from an R+jX load that's continuously varying, tracing a path around a little circle on a Smith chart (a very tiny circle, when using signals that are very small compared with the transmitted power). The rate the circles are traced out is just the frequency offset between the transmitter and the test signal.

Cheers,
Tom
K7ITM

917. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 15:30:15 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <2fca5d1f-a29c-4d6d-8d1b-927415d40dff@x1g2000yqb.googlegroups.com>
Source record: 5118

On 27 abr, 03:44, Cecil Moore <w5...@hotmail.com> wrote:
> On Apr 26, 4:49 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Other method is injecting a slightly off-carrier frequency signal into
> > the amplifier (this emulates a constant small VSWR shown to the PA
> > (wtih 50 Ohms load), but with continuous varying phase). Because of
> > the difference in frequency, one can measure the forward (towards the
> > PA) and reverse (reflected by PA) signal with a two channel VSA.
> > This will give you the PA's complex output impedance.
>
> Unfortunately, the impedance encountered by the off-carrier frequency
> signal is probably not the same as the impedance encountered by the
> carrier frequency so the results don't correlate and are not very
> useful. The carrier frequency has interference components that the off-
> carrier signal doesn't encounter.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Helo Cecil,

Depending on the frequency resolution of your VSA, the frequency of the injected signal can be well within 1 kHz of the carrier, so LC filters in the PA will not distort the measurement. In case of a 100W PA and injection of about 100 mW, the difference in wanted signal and signal to be rejected is 30 dB (not that large).

If you don't have a VSA, you can still do it (with some more calculations) by using a diode detector, this will give you the difference frequencies directly and you can observe the phase differences on an oscilloscope.

There can be a difference between a very slow load variation (for example manually changing loads and noticing current and voltage [including phase]) and the VSA method. This is because of decoupling capacitors in the power supply or bias circuits (for example RC combination in the grid circuitry to limit the grid current). If you vary the load about 10..100 times/s, bias and supply voltages don't have the time to settle to their steady state.

If the VSA method is basically wrong, I would love to hear why.

With kind regards,

Wim
PA3DJS

www.tetech.nl

918. Re: OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 16:25:05 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <264ecc98-bb81-4476-adb1-517d8fea85a9@k40g2000pro.googlegroups.com>
Source record: 5119

On Apr 22, 11:21 pm, DerbyDad03 <DerbyDa...@eznet.net> wrote:
> I might be asking my question in the wrong group, so feel free to send
> me packing if I am.
>
> The background:
>
> Our high school just installed a scoreboard for our new Varsity Softball
> field. The scoreboard controller talks to the scoreboard via a cable
> that has a 1/4" TRS plug on each end.
>
> http://www.planetronic.es/images/ak2563.jpg
>
> One end plugs into the controller and the other end plugs into a jack
> that is wired to the scoreboard in the outfield.
>
> Unfortunately, they didn't ask anyone involved with the team which
> dugout would be the home dugout, and they installed the jack that the
> controller plugs into in the visitor's dugout.
>
> We are currently using a 20' cord so that the operator doesn't have to
> sit in the visitor's dugout...he sits outside the dugout, but is still
> on the visitor's side of the field.
>
> We'd like to move the operator to our dugout, but we can't get the
> school to move the jack until after the season is over.
>
> The question:
>
> Could we use a wireless transmitter and receiver in place of the cord?
> If so, we could put the receiver in the visitor's dugout and plug it
> into the socket and the transmitter would plug into the controller. The
> range would be under 100' and the dugouts are made of concrete.
>
> The problem is, I don't know where to start looking for this type of
> equipment, or even what I would need to know to spec it out.
>
> Any suggestions would be appreciated.
>
> Thanks!

Not knowing the nature of the signals on the cable makes this a
problem. Im betting it audio. Perhaps a wireless mike TX/RX
combination may solve your problem. If its digital there are RF MODEMS
available.

Jimmie

919. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 16:40:14 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <392ffef7-ac8a-4fc9-9f7c-d4234f2dcc90@z27g2000prz.googlegroups.com>
Source record: 5120

On Apr 25, 9:07 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Sal M. Onella wrote:
> > This group has presented members with valuable lessons in antennas and
> > transmission lines, like how to measure, how to match, etc.
>
> > Something I haven't seen is a discussion of the source impedance of
> > the transmitter. My curiosity was piqued today as I took some baby
> > steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> > with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> > While this is hardly news, it got me wondering whether a 75-ohm cable
> > will load the transmitter the same. Doesn't seem like it.
>
> > My point: Using 75-ohm cable to improve the match at the antenna
> > won't help me ... IF ... I suffer a corresponding loss due to
> > mismatch at the back of the radio. My HF radios, all solid state,
> > specify a 50 ohm load. As necessary, I routinely use an internal
> > autotuner and either of two external manual tuners. (I'm aware of the
> > published 1/12 wavelength matching method.)
>
> > Wisdom in any form would be appreciated. Thanks.
>
> > "Sal"
> > (KD6VKW)
>
> I suspect that most ham transmitters do NOT have a 50 ohm output
> impedance. What they do have is a specification that they will
> adequately drive a 50 ohm load (and some sort of internal circuitry that
> detects an "unacceptable" output condition and turns down the drive).
>
> After all, your transmitter could have an output impedance of zero ohms
> (a "stiff" voltage source), and adequately drive your transmission line
> and antenna at 50 ohms (yes, this is not the optimum power transfer, but
> nobody ever said that ham transmitters are designed for optimum power
> transfer... maybe they're perfectly happy with less transfer, but still
> operating within their safe area)
>
> ON9CVD made some simple measurements using a couple of resistors and
> foudn that a TS440 has a Zout somewhere around 15-40 ohms (depending on
> frequency and output
power).http://sharon.esrac.ele.tue.nl/~on9cvd/E-Uitgangsimpedantie.htm
>
> Grant Bingeman also has words on this:http://www.km5kg.com/loads.htm

Being aware that this was the nature of my solidstate transceiver I attempted to use a tuner with one to improve my match to my antenna system. While I didnt damage my transmitter I did notice that the best settings of the tuner for TX and RX did not coincide. I was wondering if anyone else has observed this .

Jimmie

920. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 18:13:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <73c730a9-1605-441b-97bf-8ebd69f2445b@e25g2000prf.googlegroups.com>
Source record: 5121

On Apr 27, 10:30 am, Wimpie <wimabc...@tetech.nl> wrote:
> Depending on the frequency resolution of your VSA, the frequency of
> the injected signal can be well within 1 kHz of the carrier, so LC
> filters in the PA will not distort the measurement. In case of a 100W
> PA and injection of about 100 mW, the difference in wanted signal and
> signal to be rejected is 30 dB (not that large).

Would any competent optical physicist suggest that it is valid to
study the conditions associated with interfering coherent light waves
inside an interferometer by introducing an incoherent light source
into the system? Why would any competent RF engineer suggest that the
system source conditions associated with interfering coherent RF waves
can be studied by introducing an incoherent test signal?
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

921. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 18:25:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2ingr6hclckm0me4tg39cv09i6d9124qsh@4ax.com>
Source record: 5122

On Wed, 27 Apr 2011 09:40:14 -0700 (PDT), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>Being aware that this was the nature of my solidstate transceiver I
>attempted to use a tuner with one to improve my match to my antenna
>system.

Hi Jimmie,

This is somewhat cryptic, you would be expected to need a tuner.

>While I didnt damage my transmitter

This transcends cryptic. It's like saying that as you came to a stop
sign, you used your brakes and you didn't damage your car.

>I did notice that the best
>settings of the tuner for TX and RX did not coincide. I was wondering
>if anyone else has observed this .

Two different circuits inside, hence two different loads. Two
different loads, hence two different matches. Some receive paths
might be 50 Ohms, but that value is not as essential as for
transmission.

73's
Richard Clark, KB7QHC

922. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 18:43:59 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d41cc991-2f32-49ec-bf34-61ce495c3d18@d28g2000yqc.googlegroups.com>
Source record: 5123

Hello Cecil,

On 27 abr, 20:13, Cecil Moore <w5...@hotmail.com> wrote:
> On Apr 27, 10:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Depending on the frequency resolution of your VSA, the frequency of
> > the injected signal can be well within 1 kHz of the carrier, so LC
> > filters in the PA will not distort the measurement. In case of a 100W
> > PA and injection of about 100 mW, the difference in wanted signal and
> > signal to be rejected is 30 dB (not that large).
>
> Would any competent optical physicist suggest that it is valid to
> study the conditions associated with interfering coherent light waves
> inside an interferometer by introducing an incoherent light source
> into the system? Why would any competent RF engineer suggest that the
> system source conditions associated with interfering coherent RF waves
> can be studied by introducing an incoherent test signal?

As this slightly off-carrier frequency signal behaves like a load with
very low VSWR with a cable in between that extends with constant
speed. In other words, the amplifier sees a constant VSWR, but with
changing phase. Small frequency difference results in slow phase
change of VSWR.

Maybe you should read the postings from Tom also (K7ITM)

Wim
PA3DJS
www.tetech.nl

> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

923. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 19:00:17 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <8b6b374c-6c71-4d11-b035-e925a0acaf4c@n10g2000yqf.googlegroups.com>
Source record: 5124

On 27 abr, 18:40, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 25, 9:07 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
>
>
> > Sal M. Onella wrote:
> > > This group has presented members with valuable lessons in antennas and
> > > transmission lines, like how to measure, how to match, etc.
>
> > > Something I haven't seen is a discussion of the source impedance of
> > > the transmitter. My curiosity was piqued today as I took some baby
> > > steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> > > with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> > > While this is hardly news, it got me wondering whether a 75-ohm cable
> > > will load the transmitter the same. Doesn't seem like it.
>
> > > My point: Using 75-ohm cable to improve the match at the antenna
> > > won't help me ... IF ... I suffer a corresponding loss due to
> > > mismatch at the back of the radio. My HF radios, all solid state,
> > > specify a 50 ohm load. As necessary, I routinely use an internal
> > > autotuner and either of two external manual tuners. (I'm aware of the
> > > published 1/12 wavelength matching method.)
>
> > > Wisdom in any form would be appreciated. Thanks.
>
> > > "Sal"
> > > (KD6VKW)
>
> > I suspect that most ham transmitters do NOT have a 50 ohm output
> > impedance. What they do have is a specification that they will
> > adequately drive a 50 ohm load (and some sort of internal circuitry that
> > detects an "unacceptable" output condition and turns down the drive).
>
> > After all, your transmitter could have an output impedance of zero ohms
> > (a "stiff" voltage source), and adequately drive your transmission line
> > and antenna at 50 ohms (yes, this is not the optimum power transfer, but
> > nobody ever said that ham transmitters are designed for optimum power
> > transfer... maybe they're perfectly happy with less transfer, but still
> > operating within their safe area)
>
> > ON9CVD made some simple measurements using a couple of resistors and
> > foudn that a TS440 has a Zout somewhere around 15-40 ohms (depending on
> > frequency and output

power).http://sharon.esrac.ele.tue.nl/~on9cvd/E-Uitgangsimpedantie.htm
>
> > Grant Bingeman also has words on this:http://www.km5kg.com/loads.htm
>
> Being aware that this was the nature of my solidstate transceiver I
> attempted to use a tuner with one to improve my match to my antenna
> system. While I didnt damage my transmitter I did notice that the best
> settings of the tuner for TX and RX did not coincide. I was wondering
> if anyone else has observed this .
>
> Jimmie

Hello Jimmie,

I noticed this also when I was experimenting with CB equipment and simple antenna experiments.

For several CB transceivers I could get more output by slightly mismatching the load as seen by the PA (but in many cases with too much increase in current consumption).

I tried to use a matcher/tuner (and later a high Q resonator) to reject other stations close by and then I figured out that when applying mismatch to the receiver, the S-meter moved further.

The above isn't strange. As PA's are mostly not designed to show 50 Ohms, many receivers are also not designed to show 50 Ohms. I am not discussing wide band receivers (for example digital or analog video).

Most active devices have lowest noise figure when driven from a source impedance that is far from the input impedance of the active device. If you want them to be equal, you need to use feedback and that complicates the design.

Also filters with significant pass band ripple show, even when designed for 50 Ohms, significant input reflection when referenced to 50 Ohms

With kind regards,

Wim
PA3DJS
www.tetech.nl

924. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 21:18:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <243b32eb-00dc-401f-83ba-13e88b44f9c8@z27g2000prz.googlegroups.com>
Source record: 5125

On Apr 27, 1:43 pm, Wimpie <wimabc...@tetech.nl> wrote:
> In other words, the amplifier sees a constant VSWR, but with
> changing phase. Small frequency difference results in slow phase
> change of VSWR.

From the IEEE Dictionary:

"impedance -

(1)(A) The corresponding impedance function with p
replaced by jw in which w is real. Note: Definitions
(A) and (B) are equivalent.

(1)(B) The ratio of the phasor equivalent of a steady-
state sine wave voltage ... to the phasor equivalent
of a steady-state sine wave current ...

(1)(C) A physical device or combination of devices
whose impedance as defined in definition (A) or (B)
can be determined. Note: This sentence illustrates
the double use of the word impedance ... Definition
(C) is a second use of 'impedance' and is independent
of definitions (A) and (B)."

The pinging experiment seems to be measuring a physical impedance (1)
(C) the nature of which is unclear. When the amplifier is outputting
power, it seems that the source impedance would be a V/I ratio (1)(B)
which doesn't respond to incoherent signals. Seems to me, you guys are
pinging something other than the source impedance.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

925. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 22:32:30 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipa5ggfte1@news.jpl.nasa.gov>
Source record: 5128

JIMMIE wrote:

> Being aware that this was the nature of my solidstate transceiver I
> attempted to use a tuner with one to improve my match to my antenna
> system. While I didnt damage my transmitter I did notice that the best
> settings of the tuner for TX and RX did not coincide. I was wondering
> if anyone else has observed this .
>

Not surprising at all.

Consider the whole black art of adjusting the input match for lowest noise figure, which may or may not coincide with the largest output signal for a given input.

All those theorems about matching always have an asterisk about the assumption that they're reciprocal linear devices with constant impedances, etc. Start putting nonideal active devices in the mix, and life gets interesting.

926. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 22:34:06 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipa5jgfte2@news.jpl.nasa.gov>
Source record: 5126

Cecil Moore wrote:
> On Apr 27, 10:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>> Depending on the frequency resolution of your VSA, the frequency of
>> the injected signal can be well within 1 kHz of the carrier, so LC
>> filters in the PA will not distort the measurement. In case of a 100W
>> PA and injection of about 100 mW, the difference in wanted signal and
>> signal to be rejected is 30 dB (not that large).
>
> Would any competent optical physicist suggest that it is valid to
> study the conditions associated with interfering coherent light waves
> inside an interferometer by introducing an incoherent light source
> into the system? Why would any competent RF engineer suggest that the
> system source conditions associated with interfering coherent RF waves
> can be studied by introducing an incoherent test signal?

Interestingly, it's NOT an incoherent test signal. It's a carefully
chosen coherent test signal with a frequency difference. It's the same
idea as having an interferometer with dithering piezo transducer on a
mirror or a modulator in one of the paths.

927. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 22:36:20 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4DB89A64.7090208@jpl.nasa.gov>
Source record: 5127

Wimpie wrote:
> Hello Cecil,
>
> On 27 abr, 20:13, Cecil Moore <w5...@hotmail.com> wrote:
>> On Apr 27, 10:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>>
>>> Depending on the frequency resolution of your VSA, the frequency of
>>> the injected signal can be well within 1 kHz of the carrier, so LC
>>> filters in the PA will not distort the measurement. In case of a 100W
>>> PA and injection of about 100 mW, the difference in wanted signal and
>>> signal to be rejected is 30 dB (not that large).
>> Would any competent optical physicist suggest that it is valid to
>> study the conditions associated with interfering coherent light waves
>> inside an interferometer by introducing an incoherent light source
>> into the system? Why would any competent RF engineer suggest that the
>> system source conditions associated with interfering coherent RF waves
>> can be studied by introducing an incoherent test signal?
>
> As this slightly off-carrier frequency signal behaves like a load with
> very low VSWR with a cable in between that extends with constant
> speed. In other words, the amplifier sees a constant VSWR, but with
> changing phase. Small frequency difference results in slow phase
> change of VSWR.
>
>
to the device under test, this isn't much different than a electrically
controlled line stretcher (a classic automated load pull setup... see
the stuff from Maury Microwave, for instance)

It's a very clever technique. A variant is used in antenna ranges where
you have a probe with a mismatch in it.

928. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-27 23:33:08 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <8bb76cc4-c852-4a24-9e17-34f04145cfdd@v8g2000yqb.googlegroups.com>
Source record: 5129

On 27 abr, 23:18, Cecil Moore <w5...@hotmail.com> wrote:
> On Apr 27, 1:43 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > In other words, the amplifier sees a constant VSWR, but with
> > changing phase. Small frequency difference results in slow phase
> > change of VSWR.
>
> From the IEEE Dictionary:
>
> "impedance -
>
> (1)(A) The corresponding impedance function with p
> replaced by jw in which w is real. Note: Definitions
> (A) and (B) are equivalent.
>
> (1)(B) The ratio of the phasor equivalent of a steady-
> state sine wave voltage ... to the phasor equivalent
> of a steady-state sine wave current ...
>
> (1)(C) A physical device or combination of devices
> whose impedance as defined in definition (A) or (B)
> can be determined. Note: This sentence illustrates
> the double use of the word impedance ... Definition
> (C) is a second use of 'impedance' and is independent
> of definitions (A) and (B)."
>
> The pinging experiment seems to be measuring a physical impedance (1)
> (C) the nature of which is unclear. When the amplifier is outputting
> power, it seems that the source impedance would be a V/I ratio (1)(B)
> which doesn't respond to incoherent signals. Seems to me, you guys are
> pinging something other than the source impedance.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

You may try to figure out how the signal injection method functions
(it is a form of active load pulling).

Can you agree with:

it doesn't matter whether:
-power reflect towards the amplifier is caused by load mismatch, or
-power is sent towards the amplifier by means of a phase synchronized

source.

This source is phase synchronized with the PA's exciter, so we have a steady state system.

We assume small load mismatch (or low injected power towards the PA) so that the operating point of the PA just changes slightly (to allow linear approximation).

Now we insert a coupler between the amplifier and the load. This coupler will measure the forward voltage generated by the PA, plus the reflected part of the voltage that originates from the phase synchronised source. Depending on the phase relationship, it can be more or less then the forward voltage of the PA. If the PA shows 50 Ohms, the coupler's output would not change due to the signal injection (as no signal is reflected by the PA).

We note the forward coupler's output voltage (both phase and amplitude).

Now we change the phase relationship between the exciter and the source that transmits some power toward the PA. Lets change 180 degrees and keep the amplitude the same. We again note the coupler's output voltage (both phase and amplitude).

The voltage that is reflected by the PA equals half the complex voltage change because of the phase change. Off course you have to correct the readings because of the coupler loss. If you know the signal that is send toward the PA, you can now calculate the complex output impedance of the PA for small load change around 50 Ohms.

Instead of changing the phase of the source manually, you can do that continuously and note the couplers output continuously. If you change the phase of a signal continuously (with certain constant rad/s), the result is a decrease or increase of frequency.

Assuming some reflection by the PA, the complex output from coupler rotates around a certain point. That certain point is the result of the PA's output power and the rotating vector is the result from the injected signal that is reflected by the PA (back towards the load).

With a VSA you can discriminate between the voltage component from the PA itself and the reflected component (with slightly different frequency). With a normal spectrum analyser, you can only determine the magnitude of the PA's reflection coefficient (or VSWR as you like). Given the dynamic range of today's equipment, you can inject a very low level signal that may mimic load mismatch well below VSWR = 1.1.

With respect to the impedance concept, we as amateurs do not use steady state signals, as they contain no information. We modulate them and are still using the impedance concept, despite the definitiones you showed.

As long as the signal that is injected is well within the pass band of the PA and it sufficiently low to allow linear approximation, the concept of superposition and concept of impedance still holds. But if you feel more confident with the manual phase change, or using two known loads with known slight mismatch, I have nothing against it. But if you have a VSA, some couplers and signal source at hand, it may save lots of time.

With kind regard,

Wim
PA3DJS
www.tetech.nl

929. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-28 00:26:54 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipac70$hu3$1@news.jpl.nasa.gov>
Source record: 5130

Wimpie wrote:

> With a VSA you can discriminate between the voltage component from the
> PA itself and the reflected component (with slightly different
> frequency). With a normal spectrum analyser, you can only determine
> the magnitude of the PA's reflection coefficient (or VSWR as you
> like). Given the dynamic range of today's equipment, you can inject a
> very low level signal that may mimic load mismatch well below VSWR =
> 1.1.
>

One needs to have an analyzer with a narrow band detector for this, though.

Inexpensive analyzers like the TAPR VNA have untuned detectors, so the
PA's main signal will screw things up.

The N2PK uses a form of direct conversion detector, so your test signal
would have to be far enough away from the main signal so that the LPF in
the detector filters it out. The original N2PK design uses, I think, a
100 Hz filter, and the adc samples at 15.36 kHz with a digital filter.
The overall BW is something like 5 Hz, so putting your test signal 1kHz
away would probably work.

930. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-28 01:33:13 UTC
From: tom <news4792@taring.org>
Message-ID: <4db8c3d8$0$74946$8046368a@newsreader.iphouse.net>
Source record: 5131

On 4/26/2011 7:52 PM, Richard Clark wrote:
> On Tue, 26 Apr 2011 15:27:28 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:
>
>>>> (If I had a very efficient op amp, I could simulate any arbitrary output
>>>> impedance, without dissipating any power in the source)
>>>
>>> I can see why this is parenthetical, because it covers a lot of sins
>>> of omission.
>>
>> yep.. not possible to build such a thing, anymore than one can build a
>> zero ohm output impedance RF source with any signficant power.
>> Suggested more as an example that the power dissipation in the source
>> doesn't necessarily correlate with match, load Z, or anything else in
>> general.
>>
>> (You can get pretty darn close at powers less than a watt and HF, though..)
>
> OP AMPs are a constant of my admiration in the possibilities offered.
> That and the signal processing you suggest (plus digital oscillators)
> "could" change the playing field - if conventional design weren't so
> universally fallen back upon.
>
> 73's
> Richard Clark, KB7QHC

I wonder if this should be applied to these sorts of projects -

https://www.kb9yig.com/

I have a 1 watt kit that I haven't put together yet. Several others in
our club have and they love them. Especially nice for CW.

tom
K0TAR

931. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-28 01:43:38 UTC
From: tom <news4792@taring.org>
Message-ID: <4db8c64c$0$79796$8046368a@newsreader.iphouse.net>
Source record: 5132

On 4/27/2011 6:33 PM, Wimpie wrote:
> it doesn't matter whether:
> -power reflect towards the amplifier is caused by load mismatch, or
> -power is sent towards the amplifier by means of a phase synchronized
> source.
>
> This source is phase synchronized with the PA's exciter, so we have a
> steady state system.
>
> We assume small load mismatch (or low injected power towards the PA)
> so that the operating point of the PA just changes slightly (to allow
> linear approximation).

Thanks Wimpie.

It sometimes takes a bit to get me to realize this type of thing isn't hard, it's actually simple. My old brain tries to obfuscate things from itself sometimes.

It Calc 100. Make the difference small.

tom
K0TAR

932. Re: OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-28 03:18:56 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9ED4CEAB29CB4greederxprtnet@94.75.214.90>
Source record: 5133

DerbyDad03 <DerbyDad03@eznet.net> wrote in
news:iotgjj$vr3$1@speranza.aioe.org:

> I might be asking my question in the wrong group, so feel free to send
> me packing if I am.
>
> The background:
>
> Our high school just installed a scoreboard for our new Varsity
> Softball field. The scoreboard controller talks to the scoreboard via
> a cable that has a 1/4" TRS plug on each end.
>
> http://www.planetronic.es/images/ak2563.jpg
>
> One end plugs into the controller and the other end plugs into a jack
> that is wired to the scoreboard in the outfield.
>
> Unfortunately, they didn't ask anyone involved with the team which
> dugout would be the home dugout, and they installed the jack that the
> controller plugs into in the visitor's dugout.
>
> We are currently using a 20' cord so that the operator doesn't have to
> sit in the visitor's dugout...he sits outside the dugout, but is still
> on the visitor's side of the field.
>
> We'd like to move the operator to our dugout, but we can't get the
> school to move the jack until after the season is over.
>
> The question:
>
> Could we use a wireless transmitter and receiver in place of the cord?
> If so, we could put the receiver in the visitor's dugout and plug it
> into the socket and the transmitter would plug into the controller.
> The range would be under 100' and the dugouts are made of concrete.
>
> The problem is, I don't know where to start looking for this type of
> equipment, or even what I would need to know to spec it out.
>
> Any suggestions would be appreciated.
>
> Thanks!
>
>
>

Cordless phone?

Feed the signal from the cable into a modem, then into the phone handset. Base station demodulates the audio back to digital and feeds the cable to the scoreboard.

933. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-28 12:39:53 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8a747ced-52d4-4aff-b562-9a204136dd92@y31g2000vbp.googlegroups.com>
Source record: 5134

On Apr 27, 6:33 pm, Wimpie <wimabc...@tetech.nl> wrote:
> With respect to the impedance concept, we as amateurs do not use
> steady state signals, as they contain no information. We modulate them
> and are still using the impedance concept, despite the definitiones
> you showed.

Trouble is, the impedance in IEEE definition (1)(B) doesn't *cause*
reflections. If the actual source impedance matches IEEE definition (1)
(B), the presumption that source impedance will *cause* a reflection
is invalid.

Walter Maxwell argues that the actual source impedance of an RF
amplifier is in reality a V/I ratio, i.e. it agrees with IEEE
definition (1)(B).
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

934. Re: OT? Wireless Xmtr/Rcvr For Sports Scoreboard

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-28 16:00:58 UTC
From: Jim <jimmken@yahoo.com>
Message-ID: <ZPadnbjp_9OiEiTQnZ2dnUVZ_vSdnZ2d@giganews.com>
Source record: 5135

On 4/22/2011 11:21 PM, DerbyDad03 wrote:
> I might be asking my question in the wrong group, so feel free to send
> me packing if I am.
>
> The background:
>
> Our high school just installed a scoreboard for our new Varsity
> Softball field. The scoreboard controller talks to the scoreboard via
> a cable that has a 1/4" TRS plug on each end.
>
> http://www.planetronic.es/images/ak2563.jpg
>
> One end plugs into the controller and the other end plugs into a jack
> that is wired to the scoreboard in the outfield.
>
> Unfortunately, they didn't ask anyone involved with the team which
> dugout would be the home dugout, and they installed the jack that the
> controller plugs into in the visitor's dugout.
>
> We are currently using a 20' cord so that the operator doesn't have to
> sit in the visitor's dugout...he sits outside the dugout, but is still
> on the visitor's side of the field.
>
> We'd like to move the operator to our dugout, but we can't get the
> school to move the jack until after the season is over.
>
> The question:
>
> Could we use a wireless transmitter and receiver in place of the cord?
> If so, we could put the receiver in the visitor's dugout and plug it
> into the socket and the transmitter would plug into the controller.
> The range would be under 100' and the dugouts are made of concrete.
>
> The problem is, I don't know where to start looking for this type of
> equipment, or even what I would need to know to spec it out.
>
> Any suggestions would be appreciated.
>
> Thanks!
>
>
>
If the signals are analog and not digital, you might be able to buy a
pair of 2 gig audio/video sender units made for home TV signals. Just

use one or the other of the left and right audio input jacks. Or the yellow video jack. You will need a mini pin to RCA adapter. The range on those things is usually about a 100 feet or less.
It just might work.
JFK

935. FS Heath HM-2102 VHF SWR meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-04-30 19:30:40 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <ipho0kapb1@dont-email.me>
Source record: 5136

I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Excellent condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

936. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-01 06:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1304229601@panix.com>
Source record: 5137
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

937. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 00:30:21 UTC
From: walt <walt@w2du.com>
Message-ID: <2d31602a-0283-43e1-aeff-dd1c9dc58139@s4g2000yql.googlegroups.com>
Source record: 5138

On Apr 27, 2:13 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Apr 27, 10:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Depending on the frequency resolution of your VSA, the frequency of
> > the injected signal can be well within 1 kHz of the carrier, so LC
> > filters in the PA will not distort the measurement. In case of a 100W
> > PA and injection of about 100 mW, the difference in wanted signal and
> > signal to be rejected is 30 dB (not that large).
>
> Would any competent optical physicist suggest that it is valid to
> study the conditions associated with interfering coherent light waves
> inside an interferometer by introducing an incoherent light source
> into the system? Why would any competent RF engineer suggest that the
> system source conditions associated with interfering coherent RF waves
> can be studied by introducing an incoherent test signal?
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Cecil suggested reading Chapter 19A in Reflections to view the results of my extensive measurements of the output resistance (impedance) of RF power amps, but except for Jim and Richard, it appears that the others have not. Actually, Chapter19A is an addition to Chapter 19, which when taken completely will provide some information that will hopefully change some minds concerning the maximum power delivered. It should be understood that 'maximum' power delivered is that power delivered with a specified level of drive.

For example, if the drive level is set to deliver a maximum of 100w, and the pi-network is adjusted to deliver that maximum power into its load, the source resistance (impedance) will be the (complex) conjugate of the load impedance. We're not talking here about the very maximum power that the amp can deliver, with max drive, max plate current, etc.

If you review the 19A portion of you will see beyond a doubt that the conjugate match exists between the output of the pi-network and its complex load impedance, and that the maximum power delivered at the drive level that allows only 100w to be delivered as the maximum.

Further review of all the data presented there will also show that the output resistance of the amp is non-dissipative, while the dissipative resistance is that between the cathode and plate. The reason the efficiency of the amps can exceed 50 percent is because the cathode to-plate resistance is less than the non-dissipative output resistance,

where that R = E/I appearing at the output of the pi-network.

Walt, W2DU

I hope the review of my measured data will clear up some of the confusion concerning the output resistance (impedance) of the RF power amp.

Walt, W2DU

938. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 01:01:07 UTC
From: walt <walt@w2du.com>
Message-ID: <66d99acc-8b5b-441d-826e-0beeb22cc210@cu4g2000vbb.googlegroups.com>
Source record: 5139

On Apr 27, 2:13 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Apr 27, 10:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Depending on the frequency resolution of your VSA, the frequency of
> > the injected signal can be well within 1 kHz of the carrier, so LC
> > filters in the PA will not distort the measurement. In case of a 100W
> > PA and injection of about 100 mW, the difference in wanted signal and
> > signal to be rejected is 30 dB (not that large).
>
> Would any competent optical physicist suggest that it is valid to
> study the conditions associated with interfering coherent light waves
> inside an interferometer by introducing an incoherent light source
> into the system? Why would any competent RF engineer suggest that the
> system source conditions associated with interfering coherent RF waves
> can be studied by introducing an incoherent test signal?
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Cecil suggested reading Chapter 19A in Reflections to view the results of my extensive measurements of the output resistance (impedance) of RF power amps, but except for Jim and Richard, it appears that the others have not. Actually, Chapter19A is an addition to Chapter 19, which when taken completely will provide some information that will hopefully change some minds concerning the maximum power delivered. It should be understood that 'maximum' power delivered is that power delivered with a specified level of drive.

For example, if the drive level is set to deliver a maximum of 100w, and the pi-network is adjusted to deliver that maximum power into its load, the source resistance (impedance) will be the (complex) conjugate of the load impedance. We're not talking here about the very maximum power that the amp can deliver, with max drive, max plate current, etc.

If you review the 19A portion of you will see beyond a doubt that the conjugate match exists between the output of the pi-network and its complex load impedance, and that the maximum power delivered at the drive level that allows only 100w to be delivered as the maximum.

Further review of all the data presented there will also show that the output resistance of the amp is non-dissipative, while the dissipative resistance is that between the cathode and plate. The reason the efficiency of the amps can exceed 50 percent is because the cathode to-plate resistance is less than the non-dissipative output resistance,

where that R = E/I appearing at the output of the pi-network.

The earlier portion of Chapter 19, that appears in Reflections 2, can be downloaded from my web page at www.w2du.com, click on 'Read Chapters from Reflections 2', and select Chapter 19.

I hope the review of my measured data will clear up some of the confusion concerning the output resistance (impedance) of the RF power amp.

Walt, W2DU

939. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 10:33:45 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <56bc670a-e75b-42af-9693-fc28ca056bef@b19g2000yqg.googlegroups.com>
Source record: 5140

On 28 abr, 14:39, Cecil Moore <w5...@hotmail.com> wrote:
> On Apr 27, 6:33 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > With respect to the impedance concept, we as amateurs do not use
> > steady state signals, as they contain no information. We modulate them
> > and are still using the impedance concept, despite the definitiones
> > you showed.
>
> Trouble is, the impedance in IEEE definition (1)(B) doesn't *cause*
> reflections. If the actual source impedance matches IEEE definition (1)
> (B), the presumption that source impedance will *cause* a reflection
> is invalid.

Are you familiar with the concept of S-parameters where you determine
impedance by measuring of reflection coefficient?
>
> Walter Maxwell argues that the actual source impedance of an RF
> amplifier is in reality a V/I ratio, i.e. it agrees with IEEE
> definition (1)(B).
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Wim

940. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 12:37:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9ca14644-e27a-4a5b-8547-fe99a5379aa2@l2g2000prg.googlegroups.com>
Source record: 5141

On May 2, 5:33 am, Wimpie <wimabc...@tetech.nl> wrote:
> Are you familiar with the concept of S-parameters where you determine
> impedance by measuring of reflection coefficient?

Exactly how do you determine the s-parameters for a single-port black box? It is my understanding that an s-parameter analysis requires an input port and an output port to be able to measure the parameters. Where is the input port on an RF source?

What you seem to be measuring is the effect of one or more physical impedance discontinuities existing in an environment of interference. Is what you are measuring the actual dynamic source impedance? If I understand correctly what Walter Maxwell is saying is that whatever combinations of physical impedance discontinuities from which you guys are reflecting your test signals, it/they are *not the source impedance* which is a V/I ratio that originates in the source. A V/I ratio and a physical impedance discontinuity do not yield the same reflection coefficients for a 2-port device.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

941. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 13:18:47 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <8bfc337e-110b-4ae5-9042-55736fb48bc1@m4g2000yqb.googlegroups.com>
Source record: 5142

Hello Cecil,

On 2 mayo, 14:37, Cecil Moore <w5...@hotmail.com> wrote:
> On May 2, 5:33 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Are you familiar with the concept of S-parameters where you determine
> > impedance by measuring of reflection coefficient?
>
> Exactly how do you determine the s-parameters for a single-port black
> box? It is my understanding that an s-parameter analysis requires an
> input port and an output port to be able to measure the parameters.
> Where is the input port on an RF source?

I used a 2 port VNA frequently for antenna measurements, with the
difference that a single port calibration takes less time than a full
two port calibration.

>
> What you seem to be measuring is the effect of one or more physical
> impedance discontinuities existing in an environment of interference.
> Is what you are measuring the actual dynamic source impedance? If I
> understand correctly what Walter Maxwell is saying is that whatever
> combinations of physical impedance discontinuities from which you guys
> are reflecting your test signals, it/they are *not the source
> impedance* which is a V/I ratio that originates in the source. A V/I
> ratio and a physical impedance discontinuity do not yield the same
> reflection coefficients for a 2-port device.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

I would recommend you to measure something yourselves, or put it into
a simulation. You will see that it doesn't matter whether you use a
deltaV/deltaI setup (complex values, not magnitudes) or reflection
(time varying phase of VSWR) measurement. Just try to explore other
paths and discover other insights.

It doesn't matter when you are measuring a single port device that
contains a generator in it (as long as your VNA setup is able to
distinguish between the output generated by the single port device and
the reflection towards the VNA).

There is similarity with measuring antenna impedance (single port
measurement) when close to (broadcast) stations. Your antenna is a
generator in that case. You can't use the non-coherent type of VSWR
analyzers as the detector detects the signal from the broadcast

station also. However when using a device with a coherent (multiplying) detector you can, as the detector doesn't respond to the output because of the (broadcast) station.

With Tom's HP89410 setup, the injected signal for S11 can be well within the modulation bandwidth of SSB (that means well within 1 kHz of the transmitter's carrier frequency).

When you have good understanding of diode detectors, you can even do it without a VNA by using heterodyning and put your focus on the phase and amplitude of the beat frequency.

With kind regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely

942. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 14:17:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <01e95d94-3cf2-4187-8c54-123603a9ce4c@35g2000yqm.googlegroups.com>
Source record: 5143

On May 2, 8:18 am, Wimpie <wimabc...@tetech.nl> wrote:
> I would recommend you to measure something yourselves, ...

Please take a look at the numerous measurements performed by Walter
Maxwell.

Let's take a simple example of the single-port s-parameter results.
There exists a black box with one exposed port. The impedance is
measured to be 50+j0 and s11 is assumed to be zero when driven by a 50
ohm source. There could be a 50 ohm dummy load in the box but there is
not.

Actually, inside the black box is a 1/4WL Z0=100 ohm transmission line
routed to a 200 ohm resistor. s11 is certainly not zero and is
measured, using the 2-port procedure, to be 0.3333.

Which s11 is correct, 0.0000 or 0.3333?
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

943. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 14:57:14 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d3a92cb4-b9e7-44d3-8ab3-3d6b7653442c@n10g2000yqf.googlegroups.com>
Source record: 5144

On 2 mayo, 16:17, Cecil Moore <w5...@hotmail.com> wrote:
> On May 2, 8:18 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > I would recommend you to measure something yourselves, ...
>
> Please take a look at the numerous measurements performed by Walter
> Maxwell.
>
> Let's take a simple example of the single-port s-parameter results.
> There exists a black box with one exposed port. The impedance is
> measured to be 50+j0 and s11 is assumed to be zero when driven by a 50
> ohm source. There could be a 50 ohm dummy load in the box but there is
> not.
>
> Actually, inside the black box is a 1/4WL Z0=100 ohm transmission line
> routed to a 200 ohm resistor. s11 is certainly not zero and is
> measured, using the 2-port procedure, to be 0.3333.
>
> Which s11 is correct, 0.0000 or 0.3333?
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

Assuming that your black box is a 100 Ohms quarter-wave line with 200 Ohms termination (all inside the black box), S11 (50 Ohms based) = 0, as the input impedance of your black box is 50 ohms. If you like, you may see your room temperature black box as a source with about −174dBm/Hz output and an output impedance of 50 Ohms.

Wim

944. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 17:38:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6a53b655-9a1d-4b64-9816-757d07ea8b20@j13g2000pro.googlegroups.com>
Source record: 5145

On May 2, 9:57 am, Wimpie <wimabc...@tetech.nl> wrote:
> Assuming that your black box is a 100 Ohms quarter-wave line with 200
> Ohms termination (all inside the black box), S11 (50 Ohms based) = 0,...

This is what happens when one changes math models in mid-stream. s11
is NOT zero at the mouth of a stub. The impedance looking into a stub
is IEEE definition (1)(B) and cannot have an s11 of zero unless the Z0
of the stub is infinite, which it is not.

Thanks for proving my point. The single-port s11 is completely
different from the dual-port s11 and that is most likely what is
happening with your attempts to measure the source impedance of an RF
amplifier. How can you possibly promote an experimental approach where
s11 changes by an infinite percentage depending on whether one
measures it as a single-port parameter vs a dual-port parameter???
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

945. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 18:41:47 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <915cca3c-289f-45bb-8d2c-da3b1ff3d833@r20g2000yqd.googlegroups.com>
Source record: 5146

On 2 mayo, 19:38, Cecil Moore <w5...@hotmail.com> wrote:
> On May 2, 9:57 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Assuming that your black box is a 100 Ohms quarter-wave line with 200
> > Ohms termination (all inside the black box), S11 (50 Ohms based) = 0,...
>
> This is what happens when one changes math models in mid-stream. s11
> is NOT zero at the mouth of a stub. The impedance looking into a stub
> is IEEE definition (1)(B) and cannot have an s11 of zero unless the Z0
> of the stub is infinite, which it is not.

From your text I didn't conlude it is a stub (but just a series line
section that transforms 50 OHms into 200 Ohms).
>
> Thanks for proving my point. The single-port s11 is completely
> different from the dual-port s11 and that is most likely what is
> happening with your attempts to measure the source impedance of an RF
> amplifier. How can you possibly promote an experimental approach where
> s11 changes by an infinite percentage depending on whether one
> measures it as a single-port parameter vs a dual-port parameter???

Please explain (or someone else), as I don't understand anything of
the above with regards to a PA. You described a single-port device and
now starts talking about a two-port device.

If you want to prove that for a two port device the impedance
corresponding to S11 may not be equal to the input or output impedance
of port 1, you are right. When S12*S21 isn't zero, the input
impedance depends on the termination of port 2. This is just S-
parameter math, nothing magic.

For the PA case, the active device is the termination for the two-port
matching network, so in that case S11 measurement equals the input/
output impedance of the PA (just a single port measurement). See it as
the output impedance of the active device is connected to port 2 (of
the matching network), and the VNA (or load) is connected to port 1
(that is the output side of the matching network).

The PA reduces to just a single-port network with a source in it
(compare it with the antenna example where a transmitter is in the
vicinity). As long as the injected signal (or slight mismatch
connected to transmission line with increasing length) is small, you
can apply the small signal approach.

As suggested earlier, you may dive into active load pulling:
http://www.focus-microwaves.com/template.php?unique=232

It doesn't matter whether you show some mismatch to a PA, or a perfect matched load with a small source in it representing the signal that is reflected towards the amplifier.

> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Kind regards,

Wim
PA3DJS
www.tetech.nl

946. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 20:27:05 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <adf360b2-cce2-4d42-871f-fccc122049b2@f31g2000pri.googlegroups.com>
Source record: 5147

On May 1, 6:01 pm, walt <w...@w2du.com> wrote:
> On Apr 27, 2:13 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On Apr 27, 10:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > Depending on the frequency resolution of your VSA, the frequency of
> > > the injected signal can be well within 1 kHz of the carrier, so LC
> > > filters in the PA will not distort the measurement. In case of a 100W
> > > PA and injection of about 100 mW, the difference in wanted signal and
> > > signal to be rejected is 30 dB (not that large).
>
> > Would any competent optical physicist suggest that it is valid to
> > study the conditions associated with interfering coherent light waves
> > inside an interferometer by introducing an incoherent light source
> > into the system? Why would any competent RF engineer suggest that the
> > system source conditions associated with interfering coherent RF waves
> > can be studied by introducing an incoherent test signal?
> > --
> > 73, Cecil, w5dxp.com
> > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> Cecil suggested reading Chapter 19A in Reflections to view the results
> of my extensive measurements of the output resistance (impedance) of
> RF power amps, but except for Jim and Richard, it appears that the
> others have not. Actually, Chapter19A is an addition to Chapter 19,
> which when taken completely will provide some information that will
> hopefully change some minds concerning the maximum power delivered. It
> should be understood that 'maximum' power delivered is that power
> delivered with a specified level of drive.
>
> For example, if the drive level is set to deliver a maximum of 100w,
> and the pi-network is adjusted to deliver that maximum power into its
> load, the source resistance (impedance) will be the (complex)
> conjugate of the load impedance. We're not talking here about the
> very maximum power that the amp can deliver, with max drive, max plate
> current, etc.
>
> If you review the 19A portion of you will see beyond a doubt that the
> conjugate match exists between the output of the pi-network and its
> complex load impedance, and that the maximum power delivered at the
> drive level that allows only 100w to be delivered as the maximum.
>

> Further review of all the data presented there will also show that the
> output resistance of the amp is non-dissipative, while the dissipative
> resistance is that between the cathode and plate. The reason the
> efficiency of the amps can exceed 50 percent is because the cathode to-
> plate resistance is less than the non-dissipative output resistance,
> where that R = E/I appearing at the output of the pi-network.
>
> The earlier portion of Chapter 19, that appears in Reflections 2, can
> be downloaded from my web page atwww.w2du.com, click on 'Read
> Chapters from Reflections 2', and select Chapter 19.
>
> I hope the review of my measured data will clear up some of the
> confusion concerning the output resistance (impedance) of the RF power
> amp.
>
> Walt, W2DU

When a source is tuned (e.g. through a pi network or any other matching network between a PA and its load) such that maximum power is delivered to the load, it's axiomatic that the source impedance is the complex conjugate of the load. Is there really a need for a whole chapter for that?

You say, "We're not talking here about the very maximum power that the amp can deliver, with max drive, max plate current, etc." I beg to differ. That is EXACTLY what we are talking about. We're talking about modern amplifiers that would be destroyed if not for protection circuits, if they were loaded with a load that resulted in maximum dissipation in the load. We're talking about even old amplifiers with enough grid drive that they COULD be loaded to higher power output, but for reasons of wanting the active devices to survive for a reasonable length of time (or possibly other reasons), are not loaded so heavily. If you want to exclude such amplifiers from consideration, then I would hope none would disagree about the relationship of the load impedance and the source impedance. You needn't have made any measurements to convince me of that.

Cheers,
Tom

947. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 21:17:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a5d31dd8-cadc-43ea-a1e4-549bf0e10c59@28g2000yqu.googlegroups.com>
Source record: 5148

On May 2, 1:41 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Please explain (or someone else), as I don't understand anything of
> the above with regards to a PA. You described a single-port device and
> now starts talking about a two-port device.

If you recognize the example as a two-port device, you correctly
measure an s11 of 0.3333, (100-50)/(100+50). If you happen to overlook
the second port to which the 200 ohm resistor is attached and treat
the example as a single-port device, you measure an s11 of 0.0000,
(50-50)/(50+50). The example has not changed between those two
measurements so which s11 is correct? Doesn't that fact give you pause
to wonder if you are making essentially the same mistake with the PA
measurements?
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

948. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-02 22:23:52 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <9ce87a5b-c351-4c11-a8c5-d3cf760297bf@l18g2000yql.googlegroups.com>
Source record: 5149

Hello Cecil,

On 2 mayo, 23:17, Cecil Moore <w5...@hotmail.com> wrote:
> On May 2, 1:41 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Please explain (or someone else), as I don't understand anything of
> > the above with regards to a PA. You described a single-port device and
> > now starts talking about a two-port device.
>
> If you recognize the example as a two-port device, you correctly
> measure an s11 of 0.3333, (100-50)/(100+50). If you happen to overlook
> the second port to which the 200 ohm resistor is attached and treat
> the example as a single-port device, you measure an s11 of 0.0000,
> (50-50)/(50+50). The example has not changed between those two
> measurements so which s11 is correct?

You want to know the output/input impedance of your black box, this means you should look into the 100 Ohms line with 200 Ohms termination. We will see 50 Ohms, no matter the reference impedance of the VNA. If it was a 75 Ohms VNA, it would read S11 = -0.2. What the 200 Ohms resistor sees is not important if you just want to know the behavior of the single-port black box.

> Doesn't that fact give you pause to wonder if you are making essentially the same mistake with the PA
> measurements?

I am very sorry Cecil, but I still don't see the point where the discussed method may go wrong.

The only thing I could think of is that you have in mind a setup where the input of the PA is port number 1 (and the output is port number 2) and you carry out a full-port measurement. For a full class-A, AB, non-saturated PA, this may give useful results. When S12*S21 << 1, S22 will equal the output impedance, otherwise you have to do the match.

In real world many amplifiers do not behave as a linear system (food for discussion) and then the two-port setup will fail, as during S22 measurement the input port is terminated with 50 Ohms (so there is no source that provides output).

Therefore carrying out a single-port measurement with a slightly off-carrier frequency (to create non-coherence) under required output conditions, will result in a meaningful output impedance. As mentioned before, doing a (slow) manual load pull measurement may give

different results because of bias and supply voltage variations.

> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

With kind regards,

Wim
PA3DJS
www.tetech.nl

949. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 00:09:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5aafb1f1-5169-45ef-9029-3c6839ed3e19@s9g2000yqm.googlegroups.com>
Source record: 5150

On May 2, 5:23 pm, Wimpie <wimabc...@tetech.nl> wrote:
> I am very sorry Cecil, but I still don't see the point where the
> discussed method may go wrong.

Everyone seems to be charging ahead, willy-nilly, without seeing the
point which is that there are other effects present besides
reflections.

> Therefore carrying out a single-port measurement with a slightly off-
> carrier frequency (to create non-coherence) under required output
> conditions, will result in a meaningful output impedance.

Nope, it won't because virtual impedances don't cause reflections.
Only physical impedance discontinuities cause reflections. The rest of
the redistribution of RF energy is caused by the superposed
interaction between forward and reflected waves, i.e. interference
effects. Most hams do not understand the role of interference in the
redistribution of RF energy. Hope this helps.

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index
.html

Please pay close attention to the last paragraph. "... when two waves
of equal amplitude and wavelength that are 180-degrees ... out of
phase with each other meet, they are not actually annihilated, ... All
of the photon energy present in these waves must somehow be recovered
or redistributed in a new direction, according to the law of energy
conservation ... Instead, upon meeting, the photons are redistributed
to regions that permit constructive interference, so the effect should
be considered as a redistribution of light waves and photon energy
rather than the spontaneous construction or destruction of light."

You guys are presuming that reflections are the only thing you are
seeing and that is just not true. You are also seeing interference
effects without realizing it so your conclusions are doomed to failure
unless you can differentiate between constructive/destructive
interference and reflected waves. Since there has been no mention of
interference effects, I am forced to conclude that you guys are
ignorant of such effects.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

950. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 14:01:41 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <70d7cc7a-87f6-40b0-bc1c-50d566df7740@d28g2000yqf.googlegroups.com>
Source record: 5001

On 3 mayo, 02:09, Cecil Moore <w5...@hotmail.com> wrote:
> On May 2, 5:23 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > I am very sorry Cecil, but I still don't see the point where the
> > discussed method may go wrong.
>
> Everyone seems to be charging ahead, willy-nilly, without seeing the
> point which is that there are other effects present besides
> reflections.
>
> > Therefore carrying out a single-port measurement with a slightly off-
> > carrier frequency (to create non-coherence) under required output
> > conditions, will result in a meaningful output impedance.
>
> Nope, it won't because virtual impedances don't cause reflections.
> Only physical impedance discontinuities cause reflections. The rest of
> the redistribution of RF energy is caused by the superposed
> interaction between forward and reflected waves, i.e. interference
> effects. Most hams do not understand the role of interference in the
> redistribution of RF energy. Hope this helps.

The signal injection is just a way of emulating a non 50 Ohm
termination where you need to change load and or cable length. By
using slightly off-carrier frequency, you emulate a changing phase of
reflection coefficient. That emulated reflected signal goes to the PA
and interferes with the forward signal (produced by the PA). That
interference is required as this modifies current and voltage at the
PA's active device.

>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/w...
>
> Please pay close attention to the last paragraph. "... when two waves
> of equal amplitude and wavelength that are 180-degrees ... out of
> phase with each other meet, they are not actually annihilated, ... All
> of the photon energy present in these waves must somehow be recovered
> or redistributed in a new direction, according to the law of energy
> conservation ... Instead, upon meeting, the photons are redistributed
> to regions that permit constructive interference, so the effect should
> be considered as a redistribution of light waves and photon energy
> rather than the spontaneous construction or destruction of light."

To be honest, I, and my ham friends, never had to use photon theory to
solve problems in both amateur and professional RF-Engineering. So I
think this doesn’t contribute to the discussion.

> You guys are presuming that reflections are the only thing you are
> seeing and that is just not true. You are also seeing interference
> effects without realizing it so your conclusions are doomed to failure
> unless you can differentiate between constructive/destructive
> interference and reflected waves. Since there has been no mention of
> interference effects, I am forced to conclude that you guys are
> ignorant of such effects.

Worth to try yourself:

1. Set up a simple linear circuit in simulation (for example AC voltage source some impedance in series). You can use whatever (free) program you like. Use a program that allows transient (non-linear) simulation as you are working with two frequencies at the same time. I used Beige Bag spice A/D professional version 4 (not free)

2. Determine the output impedance via load pulling (for various loads if you like)

3. Do the same with the "VNA" setup (with the PA producing RF output). You need to observe the envelope variations or you have to insert a narrow band filter to suppress the carrier. I prefer observing the sinusoidally changing envelope (as this shows distortion immediately (intermod products) and saves me the settling time for the filters).

In simulation you have ideal current meters, so if you use voltage and current directly (and drop the directional couplers) you can skip the conversion from reflection coefficient to impedance.

Here you will see that the output impedance is independent of VSWR (as we started with a linear circuit) and both methods give same results.

If you like, you could now implement a real PA in simulation and do the simulation again. Note that tuning the amplifier in simulation is (very) time consuming. You will notice that, depending on the amplifier you implemented, impedance will change with increasing VSWR presented to the amplifier (valid for both methods).

I did all the above with various circuits to prove the fitness of the method. For some circuits there was a difference in result. After evaluation, that difference was caused by changes in (bias) supply during "manual" load pulling (that initially did not happen during the slightly off-carrier signal injection). With stiff bias conditions, the difference disappeared to within the accuracy limits.

> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

With kind regards,

Wim
PA3DJS

www.tetech.nl
without abc, PM will reach me in most cases.

951. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 19:55:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fc4aa6c8-bfaa-4613-9cc8-932fda8b4d24@w10g2000yqa.googlegroups.com>
Source record: 5002

On May 3, 9:01 am, Wimpie <wimabc...@tetech.nl> wrote:
> To be honest, I, and my ham friends, never had to use photon theory to
> solve problems in both amateur and professional RF-Engineering. So I
> think this doesn't contribute to the discussion.

Knowing that EM RF waves must necessarily obey the laws of photon
physics can save one from all sorts of technical blunders. But feel
free to blunder on.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

952. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 20:58:17 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ippq9b$9oj$2@dont-email.me>
Source record: 5003

On 5/3/2011 2:55 PM, Cecil Moore wrote:

> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

So, a heart attack is better than no heart at all?

953. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 21:15:48 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <51f1afe6-e17a-4b14-8f8e-8cf03f9b7d42@s9g2000yqm.googlegroups.com>
Source record: 5004

On 3 mayo, 21:55, Cecil Moore <w5...@hotmail.com> wrote:
> On May 3, 9:01 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > To be honest, I, and my ham friends, never had to use photon theory to
> > solve problems in both amateur and professional RF-Engineering. So I
> > think this doesn’t contribute to the discussion.
>
> Knowing that EM RF waves must necessarily obey the laws of photon
> physics can save one from all sorts of technical blunders. But feel
> free to blunder on.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

Maybe you should change your attitude from "it is wrong" to "it may be true". This might open your mind to study other insights.

When measuring an RF current in a PA, everybody ignores the quantisation of charge. Is this lack of knowledge?

The frequency of our waves is sufficiently low to ignore any quantisation effects due to photons. Is this lack of knowledge? In my opinion a good Engineer knows what he can ignore and what not to efficiently solve a certain task.

Starting a discussion about photons, in my opinion, is a way to reduce the S/N ratio of the discussion.

With kind regards,

Wim
PA3DJS
www.tetech.nl.

954. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 22:38:19 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c750c0cf-ed34-4274-921e-cd471bc783c2@s2g2000yql.googlegroups.com>
Source record: 5005

On May 3, 4:15 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Maybe you should change your attitude from "it is wrong" to "it may be
> true". This might open your mind to study other insights.

When an s11 measurement is wrong by an infinite percentage, I cannot
see how it could possibly be "true" - sorry.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

955. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 22:48:36 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1a892a59-a9bf-4830-b843-02fde34e4ba7@l18g2000yql.googlegroups.com>
Source record: 5006

On May 3, 3:58 pm, John KD5YI <soph...@invalid.org> wrote:
> On 5/3/2011 2:55 PM, Cecil Moore wrote:
> > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> So, a heart attack is better than no heart at all?

Don Hubbard was my best friend and that was one of his pet sayings. I assume he meant it was better to have bad breath than to be an SK, which he is.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

956. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 23:11:47 UTC
From: dave <k1ttt@pstn2.net>
Message-ID: <78ee4f8a-cc2f-460e-b685-ad92905e0817@c26g2000vbq.googlegroups.com>
Source record: 5007

On May 3, 2:01 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 3 mayo, 02:09, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On May 2, 5:23 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > I am very sorry Cecil, but I still don't see the point where the
> > > discussed method may go wrong.
>
> > Everyone seems to be charging ahead, willy-nilly, without seeing the
> > point which is that there are other effects present besides
> > reflections.

I think most of the discussion is ignoring lots of things... first of all you must answer the question; Does it really matter? If it does, then i will assume that you are a designer and know how to apply the tube characteristics to come up with a design that matches your selected tube to the expected load... but does that process really ever describe the 'output impedance'?? Then you must also consider the tuning parameters employed... sure, you can measure the output impedance at a given operating point, but answer the question again; Does it really matter? Or do you need to measure it over a wide range of operating conditions? Every operator i have seen tune up one of my amps has done it a little bit different... heck, i don't even do it exactly the same twice in a row i bet. So when i am running an amp into a switchable set of 7 different antenna combinations on a given band, can tune from one end of the band to the other without touching the settings, and can make an infinite number of small adjustments to the drive, tune, and load settings, and on some bands can tweak a tuner after the amp to 'make it happier', do I really care what the 'output impedance' really is? As long as the matching network provides adequate adjustment so i can get out the desired power into my various loads while keeping the tubes within their operating limits, do i really care what the 'output impedance' really is at any one set of conditions that i may never exactly duplicate again? I think not. So this boils down to an academic discussion, and as in many cases where no one has, or can, make an exact statement of the problem the specific answer remains elusive. So consider this, until you have a complete statement of the problem you will never be able to derive a value that any two of you will agree on, let alone actually try to set up a measurement of.

957. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 23:29:36 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ipq354$sq3$1@dont-email.me>
Source record: 5008

On 5/3/2011 4:15 PM, Wimpie wrote:
> On 3 mayo, 21:55, Cecil Moore<w5...@hotmail.com> wrote:
>> On May 3, 9:01 am, Wimpie<wimabc...@tetech.nl> wrote:
>>
>>> To be honest, I, and my ham friends, never had to use photon theory to
>>> solve problems in both amateur and professional RF-Engineering. So I
>>> think this doesnï¿½t contribute to the discussion.
>>
>> Knowing that EM RF waves must necessarily obey the laws of photon
>> physics can save one from all sorts of technical blunders. But feel
>> free to blunder on.
>> --
>> 73, Cecil, w5dxp.com
>> "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> Hello Cecil,
>
> Maybe you should change your attitude from "it is wrong" to "it may be
> true". This might open your mind to study other insights.
>
> When measuring an RF current in a PA, everybody ignores the
> quantisation of charge. Is this lack of knowledge?
>
> The frequency of our waves is sufficiently low to ignore any
> quantisation effects due to photons. Is this lack of knowledge? In my
> opinion a good Engineer knows what he can ignore and what not to
> efficiently solve a certain task.
>
> Starting a discussion about photons, in my opinion, is a way to reduce
> the S/N ratio of the discussion.
>
> With kind regards,
>
>
> Wim
> PA3DJS
> www.tetech.nl.

Hi, Wim -

I believe his confusion is the one-port vs two-port problem. I don't have a problem with your explanation. But, I think he is throwing in a port where he should not.

Cheers,
John

958. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-03 23:39:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <aa9521cd-3c56-4b78-839e-068eca10ea79@hd10g2000vbb.googlegroups.com>
Source record: 5009

On May 3, 6:11 pm, dave <k1...@pstn2.net> wrote:
> So this boils down to an academic discussion, and as in
> many cases where no one has, or can, make an exact statement of the
> problem the specific answer remains elusive.

When one's basic premises violate the laws of physics, it is very
difficult to come up with a valid answer.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

959. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 00:27:59 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6a6ee59f-1e86-4004-9dc5-29054828e4ba@o7g2000vbn.googlegroups.com>
Source record: 5010

On May 3, 6:29 pm, John KD5YI <soph...@invalid.org> wrote:
> I believe his confusion is the one-port vs two-port problem. I don't
> have a problem with your explanation. But, I think he is throwing in a
> port where he should not.

The second port is actually there on the other side of the black box,
but it has been overlooked. Doesn't it give anyone pause to realize
that the s11 parameter changes by an infinite percentage depending
upon whether it is measured as a one-port system or as a two-port
system? If that can happen with a passive black box, consider how much
more complicated it might be with an RF source included in the black
box.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

960. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 00:36:17 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ipq723bon1@dont-email.me>
Source record: 5011

On 4/25/2011 7:35 PM, Sal M. Onella wrote:
> This group has presented members with valuable lessons in antennas and
> transmission lines, like how to measure, how to match, etc.
>
> Something I haven't seen is a discussion of the source impedance of
> the transmitter. My curiosity was piqued today as I took some baby
> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> with a 50-ohm cable and a different value if fed with a 75-ohm cable.

No, the antenna still has the same characteristics. You changed the
impedance at a point remote from the antenna.

> While this is hardly news, it got me wondering whether a 75-ohm cable
> will load the transmitter the same. Doesn't seem like it.

It depends on a number of factors. For example, use a .5 wavelength 75
ohm cable to feed a 50 ohm resistance. Your transmitter happily thinks
it is 50 ohms. Because it is.

> My point: Using 75-ohm cable to improve the match at the antenna
> won't help me ... IF ... I suffer a corresponding loss due to
> mismatch at the back of the radio. My HF radios, all solid state,
> specify a 50 ohm load. As necessary, I routinely use an internal
> autotuner and either of two external manual tuners. (I'm aware of the
> published 1/12 wavelength matching method.)
>
> Wisdom in any form would be appreciated. Thanks.
>
> "Sal"
> (KD6VKW)

Transmitters don't have a clearly defined output impedance and, whatever
output impedance is there, doesn't necessarily mean anything.

Your main concern is to provide a 50 ohm load for the transmitter to see.

Actually, it the feed line and load are both 75 ohms, you will only see
a 1.5:1 SWR. Don't worry about it.

Cheers,
John

961. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 00:39:30 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ipq785coi1@dont-email.me>
Source record: 5012

On 5/3/2011 7:27 PM, Cecil Moore wrote:
> On May 3, 6:29 pm, John KD5YI<soph...@invalid.org> wrote:
>> I believe his confusion is the one-port vs two-port problem. I don't
>> have a problem with your explanation. But, I think he is throwing in a
>> port where he should not.
>
> The second port is actually there on the other side of the black box,
> but it has been overlooked. Doesn't it give anyone pause to realize
> that the s11 parameter changes by an infinite percentage depending
> upon whether it is measured as a one-port system or as a two-port
> system?

No. The experiment is designed as a one-port experiment. You have broken
the law and must go to jail without passing GO.

"Having cancer of the colon is better than no colon at all."

962. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 02:06:38 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d68fc390-da1b-45c7-8f2a-eda684959d03@u16g2000yqj.googlegroups.com>
Source record: 5013

On 4 mayo, 01:11, dave <k1...@pstn2.net> wrote:
> On May 3, 2:01 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > On 3 mayo, 02:09, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On May 2, 5:23 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > > I am very sorry Cecil, but I still don't see the point where the
> > > > discussed method may go wrong.
>
> > > Everyone seems to be charging ahead, willy-nilly, without seeing the
> > > point which is that there are other effects present besides
> > > reflections.
>
> I think most of the discussion is ignoring lots of things... first of
> all you must answer the question; Does it really matter? If it does,
> then i will assume that you are a designer and know how to apply the
> tube characteristics to come up with a design that matches your
> selected tube to the expected load... but does that process really
> ever describe the 'output impedance'?? Then you must also consider
> the tuning parameters employed... sure, you can measure the output
> impedance at a given operating point, but answer the question again;
> Does it really matter? Or do you need to measure it over a wide range
> of operating conditions? Every operator i have seen tune up one of my
> amps has done it a little bit different... heck, i don't even do it
> exactly the same twice in a row i bet. So when i am running an amp
> into a switchable set of 7 different antenna combinations on a given
> band, can tune from one end of the band to the other without touching
> the settings, and can make an infinite number of small adjustments to
> the drive, tune, and load settings, and on some bands can tweak a
> tuner after the amp to 'make it happier', do I really care what the
> 'output impedance' really is? As long as the matching network
> provides adequate adjustment so i can get out the desired power into
> my various loads while keeping the tubes within their operating
> limits, do i really care what the 'output impedance' really is at any
> one set of conditions that i may never exactly duplicate again? I
> think not. So this boils down to an academic discussion, and as in
> many cases where no one has, or can, make an exact statement of the
> problem the specific answer remains elusive. So consider this, until
> you have a complete statement of the problem you will never be able to
> derive a value that any two of you will agree on, let alone actually
> try to set up a measurement of.

Hello Dave and John,

When you look to my first posting to this thread, you may conclude that I agree with you.

We had such a discussion about a year ago where I stated that most RF amplifiers do not have 50 Ohms output impedance. That statement was heavily disputed by some persons. I tried to support that statement with simulations, but without any success.

Regarding the "academic discussion" I also agree. In my professional career where I designed several RF PA's, only 2 times the output impedance of the amplifier was of importance. In one of these cases I couldn't meet the specs and had to insert attenuation (some waste of power…).

The thing I don't like is that some people criticize methods used by some of the group members without a solid foundation.

Regarding the two-port single-port issue. One can setup a reasoning based on a two-port setup, but that significantly complicates the matter without giving any additional insight. I tried to keep it simple by referencing to a VSWR measurement (with an antenna analyzer) of an antenna when a strong transmitter is nearby, but it seems I wasn't clear enough for all people following this thread.

With kind regards,

Wim
PA3DJS
www.tetech.nl
Remove abc first before setting free the pigeon.

963. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 04:59:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aom1s653gq97ij4lkfkaidkqvu1uih103n@4ax.com>
Source record: 5014

On Tue, 3 May 2011 19:06:38 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>only 2 times the output
>impedance of the amplifier was of importance.

What a strange ellipsis.

In other words if this statement bears upon the discussion, then it
deserves a fuller context. Why was it of importance?

> In one of these cases I
>couldn't meet the specs and had to insert attenuation (some waste of
>poweri¿½).

Ed McMahon: "How much power?"

Just trying to get some perspective on this power sourced in the PA.

73's
Richard Clark, KB7QHC

964. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 12:23:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3329cb94-2b31-45bf-b86d-e9cf923092a3@d1g2000yqm.googlegroups.com>
Source record: 5015

On May 3, 9:06 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Regarding the two-port single-port issue. One can setup a reasoning
> based on a two-port setup, but that significantly complicates the
> matter without giving any additional insight. I tried to keep it
> simple ...

"Everything should be made as simple as possible, but not simpler."
Albert Einstein

Here's my earlier example:

Source-----Z0=50----x----1/4WL Z0=100----200 ohm load

s11 is measured at point x equal to 0.3333 and also 0.3333 at the
load. Nowhere is s11 equal to 0.0000. Put everything to the right of
point x into a black box and s11 measures to be 0.0000 under exactly
the same conditions??? And you guys want all of us to trust that
measurement enough to predict the disputed source impedance of an RF
amp when it cannot even predict the load impedance in the above very
simple passive circuit?

There are reflected waves at point x (s11*a1) that are equal in
magnitude and 180 degrees out of phase with the reflected waves
transmitted back from the load (s12*a2). The two waves undergo
destructive interference at point x which creates a V/I ratio of 50 at
point x. But the absence of *net* reflected energy at point x does not
mean that there are no reflections at point x. There are actually two
sets of reflections at point x that mask any attempt to determine the
actual value of the load impedance by measuring s11 when the system is
installed inside a black box. It is foolish to presume that there are
no similar interference patterns inside an RF amp. In fact, the only
condition where there is no interference inside a simple voltage
source is when there are no reflections or the reflections are
orthogonal to the source signal.

There is a good discussion of the role of interference in the creation
of virtual impedances in section 4.3 of "Reflections", by Walter
Maxwell. Even though a lot RF engineers scoff at the laws of EM wave
physics from the field of optics, the best explanation of interference
I have ever read is the chapter by the same name in "Optics", by
Hecht. Another good chapter in "Optics" is "The Superposition of
Waves".
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

965. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 15:47:46 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <3643ca74-b434-499e-a2e1-50b86359aece@24g2000yqk.googlegroups.com>
Source record: 5016

On 4 mayo, 14:23, Cecil Moore <w5...@hotmail.com> wrote:
> On May 3, 9:06 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Regarding the two-port single-port issue. One can setup a reasoning
> > based on a two-port setup, but that significantly complicates the
> > matter without giving any additional insight. I tried to keep it
> > simple ...
>
> "Everything should be made as simple as possible, but not simpler."
> Albert Einstein
>
> Here's my earlier example:
>
> Source-----Z0=50----x----1/4WL Z0=100----200 ohm load
>
> s11 is measured at point x equal to 0.3333 and also 0.3333 at the
> load. Nowhere is s11 equal to 0.0000. Put everything to the right of
> point x into a black box and s11 measures to be 0.0000 under exactly
> the same conditions??? And you guys want all of us to trust that
> measurement enough to predict the disputed source impedance of an RF
> amp when it cannot even predict the load impedance in the above very
> simple passive circuit?
>
> There are reflected waves at point x (s11*a1) that are equal in
> magnitude and 180 degrees out of phase with the reflected waves
> transmitted back from the load (s12*a2). The two waves undergo
> destructive interference at point x which creates a V/I ratio of 50 at
> point x. But the absence of *net* reflected energy at point x does not
> mean that there are no reflections at point x. There are actually two
> sets of reflections at point x that mask any attempt to determine the
> actual value of the load impedance by measuring s11 when the system is
> installed inside a black box. It is foolish to presume that there are
> no similar interference patterns inside an RF amp. In fact, the only
> condition where there is no interference inside a simple voltage
> source is when there are no reflections or the reflections are
> orthogonal to the source signal.
>
> There is a good discussion of the role of interference in the creation
> of virtual impedances in section 4.3 of "Reflections", by Walter
> Maxwell. Even though a lot RF engineers scoff at the laws of EM wave
> physics from the field of optics, the best explanation of interference
> I have ever read is the chapter by the same name in "Optics", by
> Hecht. Another good chapter in "Optics" is "The Superposition of
> Waves".

> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

Basically, it doesn't matter what is inside the box. It can be fully characterized by its impedance versus frequency (small signal approach).

I am fully aware of that there are (back and forth) reflections in the quarter wave line inside the black box. However in case of a black box, you don't know that (black box principle).

Same thing happens in most narrow band antennas. The antenna wire itself may be subjected to (for example) VSWR = 10, though the impedance can be 50 Ohm (and therefore doesn’t introduce reflection in a 50 Ohms feed line). I know that this 50 Ohms is the result of interfering waves/signals, but an MFJ 259B antenna analyzer, or my FT7B doesn't (and doesn't need to know it).

One could only guess what is a black box based on its impedance versus frequency curve, S11 curve or Time domain response (I had to do this in school).

So if we decide to open the black box and we put the reference plane inside the box, we get a new thread, something like: "why has a PA certain output impedance?", or "what is the large signal output impedance of valves, BJT, FET, etc?".

With kind regards,

Wim
PA3DJS
www.tetech.nl

966. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 16:34:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iprv4urit1@news.jpl.nasa.gov>
Source record: 5017

John KD5YI wrote:
>
>
> Transmitters don't have a clearly defined output impedance and, whatever
> output impedance is there, doesn't necessarily mean anything.
>
> Your main concern is to provide a 50 ohm load for the transmitter to see.

actually, to provide an *acceptable* load for the transmitter that
maximizes radiated RF power. That might not be 50 ohms.. and I don't
know that we actually care what it is, unless we're designing amplifiers.

50 ohms is basically a "standard test condition" so that you can compare
amplifiers, and it happens to be convenient that everything is made with
the same standard impedance. That way, your test load (which will
dissipate a fair amount of power in some tests) can be located somewhere
different, and connected by a length of transmission line with the same
impedance, so the test at the amplifier output reference plane is still
valid.

967. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 17:10:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3a803dd4-cb3f-4ecb-8199-4097bd7c3d97@l18g2000yql.googlegroups.com>
Source record: 5018

On May 4, 10:47 am, Wimpie <wimabc...@tetech.nl> wrote:
> Basically, it doesn't matter what is inside the box. It can be fully
> characterized by its impedance versus frequency (small signal
> approach).

If what is inside the box doesn't matter, why waste time trying to measure what is inside the RF amp box? What can be "fully characterized" is the box's relationship to everything outside of the box. Exactly what is inside the box cannot be ascertained at all while we handicap ourselves with a blinders. When we actually look inside an RF amp, we find active non-linear devices upon which we all have been warned about trying to use linear assumptions.

It doesn't matter what is inside the box when *conditions outside of the box* are being considered. EE201. What is inside the box matters considerably for *conditions inside the box*. For instance, replacing a 50 ohm dipole with a 50 ohm lumped circuit doesn't change things between the load and the source. But it causes an almost infinite change from the load out to the rest of reality.

Anything else I could say on this subject would be repetition.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

968. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 21:11:16 UTC
From: walt <walt@w2du.com>
Message-ID: <04bb0f58-4ed3-4251-bc4d-8527c2d4079f@q32g2000yqn.googlegroups.com>
Source record: 5019

On May 2, 8:09 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 2, 5:23 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > I am very sorry Cecil, but I still don't see the point where the
> > discussed method may go wrong.
>
> Everyone seems to be charging ahead, willy-nilly, without seeing the
> point which is that there are other effects present besides
> reflections.
>
> > Therefore carrying out a single-port measurement with a slightly off-
> > carrier frequency (to create non-coherence) under required output
> > conditions, will result in a meaningful output impedance.
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> Nope, it won't because virtual impedances don't cause reflections.
> Only physical impedance discontinuities cause reflections. The rest of
> the redistribution of RF energy is caused by the superposed
> interaction between forward and reflected waves, i.e. interference
> effects. Most hams do not understand the role of interference in the
> redistribution of RF energy. Hope this helps.
>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/w...
>
> Please pay close attention to the last paragraph. "... when two waves
> of equal amplitude and wavelength that are 180-degrees ... out of
> phase with each other meet, they are not actually annihilated, ... All
> of the photon energy present in these waves must somehow be recovered
> or redistributed in a new direction, according to the law of energy
> conservation ... Instead, upon meeting, the photons are redistributed
> to regions that permit constructive interference, so the effect should
> be considered as a redistribution of light waves and photon energy
> rather than the spontaneous construction or destruction of light."
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> You guys are presuming that reflections are the only thing you are
> seeing and that is just not true. You are also seeing interference
> effects without realizing it so your conclusions are doomed to failure
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> interference and reflected waves. Since there has been no mention of
> interference effects, I am forced to conclude that you guys are
> ignorant of such effects.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

During 1991 Warren Bruene used the RPG method in which he believes he measured the source resistance of an RF power amp, which he calls 'Rs'. I have never agreed that his method measures the source impedance, or that his data has any relevance to anything.

Consequently, I am not impressed with the discussion going on here concerning applying a signal back into an operating RF power amp to determine the source impedance. Please define 'source impedance'--where is it located in the amp? At the plate? At the output of the pi-network?. And how do you know the data obtained using this method is correct? Have you verified it by comparing it with data obtained using another method?

I made a statement in an earlier post that when measuring the output impedance using the 'load pull' method we're not concerned with the absolute maximum power that can be delivered, but instead, limiting the 'maximum' power delivered to that which can be delivered with a specific level of grid drive, one which allows the power to be limited to that of a normal operating level. Tom disagrees with this position, that it is really the ABSOLUTE MAXIMUM power delivery that should be considered. As you can see, I don't agree with Tom.

I don't know how many on this thread have actually reviewed the portion of my Chapter 19 that presents the step-by-step procedure I used in determining the output impedance of the Kenwood TS-830S tx, which shows precisely the output impedance appearing at the output of the pi-network.

To summarize the procedure that I maintain will provide an accurate measurement of the output impedance appearing at the output terminals of the pi-network is as follows:

1) Adjust the loading and tuning controls of the amp to deliver all the available power to a complex load in the amount normally used in operation with the setting of the grid-drive level required to obtain that output power.

2).Measure the impedance of the complex load.

3) The output impedance, or 'source' impedance of the amp appearing at the output terminals of the pi-network is the complex conjugate of the load impedance.

Now, when you measure the source impedance using the externally-injected signal, does the data from that measurement agree with that of the load-measuring method? If it does, then I'll agree that the RPG method is valid. If it doesn't I'll continue to have considerable doubt as to its validity. But I'd still like to know where the resistance measured by this method is located in the amp.

Walt

969. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 22:44:10 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ipskrt$d1$1@dont-email.me>
Source record: 5020

On 5/4/2011 4:11 PM, walt wrote:
> On May 2, 8:09 pm, Cecil Moore<w5...@hotmail.com> wrote:
>> On May 2, 5:23 pm, Wimpie<wimabc...@tetech.nl> wrote:
>>
>>> I am very sorry Cecil, but I still don't see the point where the
>>> discussed method may go wrong.
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>>> conditions, will result in a meaningful output impedance.
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>> of equal amplitude and wavelength that are 180-degrees ... out of
>> phase with each other meet, they are not actually annihilated, ... All
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> During 1991 Warren Bruene used the RPG method in which he believes he
> measured the source resistance of an RF power amp, which he calls
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> impedance, or that his data has any relevance to anything.
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> Consequently, I am not impressed with the discussion going on here
> concerning applying a signal back into an operating RF power amp to
> determine the source impedance. Please define 'source impedance'--
> where is it located in the amp? At the plate? At the output of the pi-
> network?. And how do you know the data obtained using this method is
> correct? Have you verified it by comparing it with data obtained using
> another method?
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> I made a statement in an earlier post that when measuring the output
> impedance using the 'load pull' method we're not concerned with the
> absolute maximum power that can be delivered, but instead, limiting
> the 'maximum' power delivered to that which can be delivered with a
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> injected signal, does the data from that measurement agree with that
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> method is valid. If it doesn't I'll continue to have considerable

> doubt as to its validity. But I'd still like to know where the
> resistance measured by this method is located in the amp.
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> Walt

It seems to me that we maybe should not be talking about source impedance but maybe about 'regulation' or some other equivalent word.

For an open-loop source made from real components, I think one will always find that there is a dE/dI number for output loading that we can call source resistance.

It does not always mean that there is a physical resistance in the circuit. It is simply a measure of the ability of the device to provide an unvarying voltage under conditions of varying load.

Does this make any sense?

John

970. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 23:05:03 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <467c1c6b-420a-4188-9b34-2e9b940b92cc@v8g2000yqb.googlegroups.com>
Source record: 5021

On 4 mayo, 23:11, walt <w...@w2du.com> wrote:
> On May 2, 8:09 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On May 2, 5:23 pm, Wimpie <wimabc...@tetech.nl> wrote:
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> >http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/w...
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> > 73, Cecil, w5dxp.com
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> of the load-measuring method? If it does, then I'll agree that the RPG

> method is valid. If it doesn't I'll continue to have considerable
> doubt as to its validity. But I'd still like to know where the
> resistance measured by this method is located in the amp.
>
> Walt

Hello Walt,

Except for bias or supply voltage change due to load change, load pulling does give similar results as off-carrier signal injection. I did this in simulation for various circuits (linear and non-linear). You may remember that I put something in a document (discussion of last year, it is still on my website).

You can get different results in case of soft power supply or bias supplies. In case of manual load pulling, bias/supply voltage may change (think of change in grid current due to change in RF plate voltage). There is sufficient time for all voltages and currents to settle. I added a section on the envelope response due to bias current/voltage change.

When you use the injection method (for example with 130 Hz offset), it is like load pulling where you switch the load 200 times/s (more specifically you rotate the phase of the reflection coefficient as seen by the PA). In such a situation bias and supply voltages will settle to an average value resulting in (slightly) different results.

While not relevant for here, but nice to mention, stiffness of bias supplies has influence on IMD also.

With kind regards,

Wim
PA3DJS
www.tetech.nl

971. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 23:18:29 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <bf06d519-4c0b-4124-9efd-b2633d472f59@35g2000yqy.googlegroups.com>
Source record: 5022

On 5 mayo, 00:44, John KD5YI <soph...@invalid.org> wrote:
> On 5/4/2011 4:11 PM, walt wrote:
>
>
>
> > On May 2, 8:09 pm, Cecil Moore<w5...@hotmail.com> wrote:
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> >> Please pay close attention to the last paragraph. "... when two waves
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> > resistance measured by this method is located in the amp.
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> > Walt
>
> It seems to me that we maybe should not be talking about source
> impedance but maybe about 'regulation' or some other equivalent word.
>
> For an open-loop source made from real components, I think one will
> always find that there is a dE/dI number for output loading that we can
> call source resistance.
>
> It does not always mean that there is a physical resistance in the
> circuit. It is simply a measure of the ability of the device to provide
> an unvarying voltage under conditions of varying load.
>
> Does this make any sense?
>
> John

Hello John,

You are correct with respect to the physical resistor. If you tune a real class-C amplifier for maximum output power (conjugated match), you may not reach the highest efficiency, but at least significantly above 60%. So this shows that there is no "physical" 50 Ohms in the PA (assuming 50 Ohms load). If so, the efficiency would never exceed 50%.

When you change the load (after tuning for maximum output) from 50 Ohms to (for example) 30 Ohms and would carry out an impedance measurement around that 30 Ohms load resistance, you will measure something completely different. With "around 30 Ohms" I mean using 32 and 28 Ohms (for example).

With kind regards,

Wim
PA3DJS
www.tetech.nl

972. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-04 23:19:27 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ipsmu1$rf2$1@dont-email.me>
Source record: 5023

On 5/4/2011 11:34 AM, Jim Lux wrote:
> John KD5YI wrote:
>>
>>
>> Transmitters don't have a clearly defined output impedance and,
>> whatever output impedance is there, doesn't necessarily mean anything.
>>
>> Your main concern is to provide a 50 ohm load for the transmitter to see.
>
> actually, to provide an *acceptable* load for the transmitter that
> maximizes radiated RF power. That might not be 50 ohms.. and I don't
> know that we actually care what it is, unless we're designing amplifiers.

Acceptable is what the manufacturer recommends for his gear. What does
this have to do with the device's output impedance?

John

973. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 00:23:19 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipsqk3$4h2$1@news.jpl.nasa.gov>
Source record: 5025

John KD5YI wrote:

> It seems to me that we maybe should not be talking about source
> impedance but maybe about 'regulation' or some other equivalent word.
>
> For an open-loop source made from real components, I think one will
> always find that there is a dE/dI number for output loading that we can
> call source resistance.
>
> It does not always mean that there is a physical resistance in the
> circuit. It is simply a measure of the ability of the device to provide
> an unvarying voltage under conditions of varying load.

This is comparable to the concept of "dynamic resistance" and, as well,
to "negative resistance" (as exhibited by gas discharges for instance).

The local slope of the V/I curve is negative, but that doesn't mean that
it has negative power.

>
> Does this make any sense?
>
> John
>
>
>

974. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 00:54:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipssf8$55a$1@news.jpl.nasa.gov>
Source record: 5024

John KD5YI wrote:
> On 5/4/2011 11:34 AM, Jim Lux wrote:
>> John KD5YI wrote:
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>>> Transmitters don't have a clearly defined output impedance and,
>>> whatever output impedance is there, doesn't necessarily mean anything.
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>> actually, to provide an *acceptable* load for the transmitter that
>> maximizes radiated RF power. That might not be 50 ohms.. and I don't
>> know that we actually care what it is, unless we're designing amplifiers.
>
> Acceptable is what the manufacturer recommends for his gear. What does
> this have to do with the device's output impedance?
>

Absolutely nothing.. which is the point. Manufacturers have to make
their device work into some sort of loads, but can't test every possible
load, nor necessarily optimize the design for every possible load that
someone might use.

So we use, as a convention, that we'll measure the output power or DC to
RF conversion efficiency or Power Added Efficiency or whatever, with a
50 ohm resistive load hooked up to it.

That doesn't mean that we actually want to use a 50 ohm load in real
life. Maybe I have an amplifier designed to drive a loop antenna with a
resistive 10 ohm impedance. I might optimize it for that, but, because
people want to see a spec sheet, I'm going to have to measure the output
into 50 ohms and put that on the data sheet.

Or, perhaps, the active devices I use happen to have a "natural" output
impedance of, say, 8-10 ohms, so I put a 4:1 transformer on the output.
My box, if I were to measure the output Z, would show about 40 ohms.
I'd test it with a 50 ohm load, make sure I could put out 100W into that
load so I can sell it as a "100 W transmitter" and be done with it.

It might happen that you could hook up a 40 ohm load, or a 20 ohm load,
and it will work just fine, and may even put out more than 100W.

The fact of the matter is that ham manufacturers don't actually specify
the output Z: they just give you a range of outputs into which they'll
guarantee the transmitter won't fail. (e.g. say, 25 to 100 ohms..

perhaps specified a bit sloppily as VSWR 2:1 if driven from a 50 ohm source)

Interestingly, my IC7000 manual doesn't even give a output impedance, or even a range of legal load impedances (page 150 of the manual).

Page 11 does say "Antenna Connector: Accepts a 50 ohm antenna with a PL-259 connector"

And Page 15 does say "Use a well matched 50ohm antenna" and "An SWR of 1.5:1 or lower is recommended" doesn't say it won't work, doesn't even say it only develops rated output power (on page 150) into that particular load. There is a boxed note that says that if the SWR is higher than approx 2.0:1, the transceiver's output power is reduced.

And, let's look at the service manual.. Spec page is identical to the one in the user manual. The procedure calls out a whole bunch of adjustments to set the "% power" to appropriate levels using a 50 ohm load, but doesn't say what the power into some other load Z would be.

There is a test that when you hook up 100 ohms, the internal SWR meter reads 2:1, and 50 ohms reads 1:1. But that's not a test of the transmitter's output Z, more a calibration of the transmitter as RF ohmmeter for an external component.

The ALC system actually measures the output VOLTAGE (not power) and matches that up against the setpoint for the power (implying that if you hook up a 40 ohm load, and you set the radio for 50W, you'll get a bit more out).

the Automatic Power Limiting is a current sensor: if it exceeds 22A, it reduces the drive. In fact, it kind of looks like the reflected HF power (from the sampler at the filter output) isn't used to control the drive at all.. it's just used to drive the SWR indicator. Kind of tough to tell, the prose description is a bit unclear, and I haven't followed all the signals through on the schematic.

but the summary is,

975. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 01:23:01 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ipsu5o$f81$1@dont-email.me>
Source record: 5026

On 5/4/2011 7:54 PM, Jim Lux wrote:
> John KD5YI wrote:

>> Acceptable is what the manufacturer recommends for his gear. What does
>> this have to do with the device's output impedance?
>>
>
> Absolutely nothing.. which is the point.

Are we arguing the same point?

> but the summary is,

That it is a bag of worms? I'm waiting with baited breath...

976. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 04:25:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3t74s61tthg362ht6dp4nk3hcnc7tu8q1c@4ax.com>
Source record: 5027

On Wed, 04 May 2011 17:54:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>That doesn't mean that we actually want to use a 50 ohm load in real
>life. Maybe I have an amplifier designed to drive a loop antenna with a
>resistive 10 ohm impedance.

Interesting. For a community that is so tight-fisted with cash, and
so brag-hearty with power claims, absolutely no one has ever tossed
their hat into the ring that with lower than 50Ohm termination on
their rig (and I'm not talking about 45Ohms) or with a more than 50Ohm
termination on their rig (and this is certainly achievable with a
72Ohm Dipole and 70 Ohm coax) that they have then proclaimed they
substantially exceeded 100W radiated (or lost to heat for that matter)
by the same degree of offset from 50.

>Or, perhaps, the active devices I use happen to have a "natural" output
>impedance of, say, 8-10 ohms,

That must date to the 1950s vintage of solid state. Your own IC7000
certainly doesn't suffer that abysmal "natural" output impedance. The
RD70HHF1 for 97W into 50Ohms exhibits 0.77-j0.22 Ohms @ 30MHz, a far
cry from your supposition. Off by 1000%?

>It might happen that you could hook up a 40 ohm load, or a 20 ohm load,
>and it will work just fine, and may even put out more than 100W.

"May" is lazy, "Does" is more authoritative. Any reports of "Does?"

>And Page 15 does say "Use a well matched 50ohm antenna" and "An SWR of
>1.5:1 or lower is recommended" doesn't say it won't work, doesn't even
>say it only develops rated output power (on page 150) into that
>particular load. There is a boxed note that says that if the SWR is
>higher than approx 2.0:1, the transceiver's output power is reduced.

Which is curious when the manufacturer of the RD70HHF1 power
transistors gives them a "No destroy" rating into a mismatch of 20:1.
Such is the inertia of 1950s design-think with modern components.

73's
Richard Clark, KB7QHC

977. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 15:06:25 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <sradndsvEfZoIV_QnZ2dnUVZ_oydnZ2d@bright.net>
Source record: 5028

Dear Wimpie: The content of the paragraph below may well rise above the noise of this thread.
I expect to learn something of value from your comments about why twice the (apparent) output Z of an amplifier was of importance and what you did to have the amplifiers conform.

73, Mac N8TT

"Wimpie" wrote in message
news:d68fc390-da1b-45c7-8f2a-eda684959d03@u16g2000yqj.googlegroups.com...

Hello Dave and John,

<snip>

Regarding the "academic discussion" I also agree. In my professional career where I designed several RF PA's, only 2 times the output impedance of the amplifier was of importance. In one of these cases I couldn't meet the specs and had to insert attenuation (some waste of powerï¿½).

<snip>

With kind regards,

Wim
PA3DJS
www.tetech.nl
Remove abc first before setting free the pigeon.

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

978. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 17:23:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipumc8nsa1@news.jpl.nasa.gov>
Source record: 5030

John KD5YI wrote:
> On 5/4/2011 7:54 PM, Jim Lux wrote:
>> John KD5YI wrote:
>
>>> Acceptable is what the manufacturer recommends for his gear. What does
>>> this have to do with the device's output impedance?
>>>
>>
>> Absolutely nothing.. which is the point.
>
>
> Are we arguing the same point?
>
>
>> but the summary is,
>
>
> That it is a bag of worms? I'm waiting with baited breath...

Exactly..

In fact, as interesting as it would be to measure the output impedance of my radio, I started to think about what it would buy me, and came to the conclusion, almost nothing (other than satisfying curiosity).

It *might* be interesting to look at (and write an article for QST/QEX or something) "optimizing radiated power". Answering the question: do you really want a 50 ohm match on your antenna analyzer, or do you want maximum net power at the antenna feedpoint, and what that might mean for typical 100W solid state rigs, antennas, etc.

(as a practical matter, this is what automatic antenna tuners actually adjust for: either minimum reflected power, or maximum fwd-ref)

but it's possible that deliberately running a mismatch (as shown on your rig's SWR meter) might actually result in more radiated power. e.g. if at 1:1 you have 100W fwd and 0 rev, but at 2:1 you have 150W fwd and 15W reflected, so you're actually net 135W vs 100W; assuming your rig doesn't otherwise have any problems.

979. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 17:38:27 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipun8u$o63$1@news.jpl.nasa.gov>
Source record: 5029

Richard Clark wrote:
> On Wed, 04 May 2011 17:54:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> That doesn't mean that we actually want to use a 50 ohm load in real
>> life. Maybe I have an amplifier designed to drive a loop antenna with a
>> resistive 10 ohm impedance.
>
> Interesting. For a community that is so tight-fisted with cash, and
> so brag-hearty with power claims, absolutely no one has ever tossed
> their hat into the ring that with lower than 50Ohm termination on
> their rig (and I'm not talking about 45Ohms) or with a more than 50Ohm
> termination on their rig (and this is certainly achievable with a
> 72Ohm Dipole and 70 Ohm coax) that they have then proclaimed they
> substantially exceeded 100W radiated (or lost to heat for that matter)
> by the same degree of offset from 50.

Maybe that's because of tradition.. it's not only hams who do that. In the professional world, there's a strong tendency to make the "interfaces" between subsystems 50 ohms, even if overall system efficiency might be improved by, say, a 25 ohm impedance. I've worked on systems where a DAC produced a balanced signal with a 200 ohm Z, and the vector modulator at the other end had a balanced input with a 200 ohm Z, but everyone insisted we put a 4:1 transformer on each end, so we could run 50 ohm coax for a <10cm run.

If you're a amp maker, you're probably going to sell a lot more amps if you specify and design for 50 ohms (the 10 ohm PA for loop antennas would be a niche market). Likewise, if you're an antenna builder, designing a product for 50 ohms will sell more than, say, 35 ohms.

In the cellphone world, because the PA and antenna tend to be developed as an integrated assembly, they're probably a bit more flexible on this.

There's also the issue of wanting to put a power meter in line (but I think that if you're using a 10 ohm system, you're probably capable of figuring out how to measure power to make sure that you're not busting the FCC limits)

>
>> Or, perhaps, the active devices I use happen to have a "natural" output
>> impedance of, say, 8-10 ohms,
>
> That must date to the 1950s vintage of solid state. Your own IC7000
> certainly doesn't suffer that abysmal "natural" output impedance. The
> RD70HHF1 for 97W into 50Ohms exhibits 0.77-j0.22 Ohms @ 30MHz, a far

> cry from your supposition. Off by 1000%?

Just an example. I know that modern parts are MUCH lower. The point is that if one knew you had a 3 ohm load, you could design an amplifier that would directly drive it without a transformer or network, and potentially get better overall efficiency.

>
>> It might happen that you could hook up a 40 ohm load, or a 20 ohm load,
>> and it will work just fine, and may even put out more than 100W.
>
> "May" is lazy, "Does" is more authoritative. Any reports of "Does?"

The link from several days ago for the gentleman who measured the output Z being around 40 ohms would be a "does"..

>
>> And Page 15 does say "Use a well matched 50ohm antenna" and "An SWR of
>> 1.5:1 or lower is recommended" doesn't say it won't work, doesn't even
>> say it only develops rated output power (on page 150) into that
>> particular load. There is a boxed note that says that if the SWR is
>> higher than approx 2.0:1, the transceiver's output power is reduced.
>
> Which is curious when the manufacturer of the RD70HHF1 power
> transistors gives them a "No destroy" rating into a mismatch of 20:1.
> Such is the inertia of 1950s design-think with modern components.

Yes, but the design limit might not be the transistor mismatch. It might be a thermal dissipation limit, or some other component that's the limiting factor.

(Or even, a desire to not have to answer 1000 customer service inquiries to explain why it really doesn't matter what you hook up, or to explain, that, yes, you DO need to actually connect an antenna of some sort)

Amateur radio, particularly in the mass market, is pretty slow to move.

980. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 19:05:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <87a3759e-7e5e-48be-8722-b30d185c24fa@r27g2000prr.googlegroups.com>
Source record: 5031

On May 5, 12:23 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Answering the question: do
> you really want a 50 ohm match on your antenna analyzer, or do you want
> maximum net power at the antenna feedpoint, ...

Strangely enough, for any fixed configuration with reflections, one
way to maximize radiated power is to maximize reflected power at the
antenna feedpoint.:)

981. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 20:06:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qsr5s6tsgf3nlpp5b92jk0kir1gtp1pgs4@4ax.com>
Source record: 5032

On Thu, 05 May 2011 10:38:27 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>>> That doesn't mean that we actually want to use a 50 ohm load in real
>>> life. Maybe I have an amplifier designed to drive a loop antenna with a
>>> resistive 10 ohm impedance.
>>
>> Interesting. For a community that is so tight-fisted with cash, and
>> so brag-hearty with power claims, absolutely no one has ever tossed
>> their hat into the ring that with lower than 50Ohm termination on
>> their rig (and I'm not talking about 45Ohms) or with a more than 50Ohm
>> termination on their rig (and this is certainly achievable with a
>> 72Ohm Dipole and 70 Ohm coax) that they have then proclaimed they
>> substantially exceeded 100W radiated (or lost to heat for that matter)
>> by the same degree of offset from 50.
>
>
>Maybe that's because of tradition.. it's not only hams who do that.

Well, that and the rest doesn't respond to the observation that NO ONE
makes a claim of more power from a rig that DOES NOT have a source
resistance of 50 Ohm.

>in the professional world, there's a strong tendency to make the
>"interfaces" between subsystems 50 ohms, even if overall system
>efficiency might be improved by, say, a 25 ohm impedance.

Retail engineering is ruled by a market economy. You have offered a
reductio-ad-absurdum of the native components offering ~10 Ohms
without the cost of intervening transformers. Such an "improved
efficiency" at lower cost option has been available for decades and
has yet to appear as a retail product for the tight-fisted Ham market.
Market logic shows by the force of economy that such a solution is not
viable.

>>a far cry from your supposition. Off by 1000%?
>
>Just an example.

An incredibly poor one in the context of 100W transmitters when garden
variety examples abound.

>I know that modern parts are MUCH lower.

That deliver 97W into 50 Ohms at 30 MHZ with a nominal 12VDC supply? I
smell another poor example.

>>> It might happen that you could hook up a 40 ohm load, or a 20 ohm load,
>>> and it will work just fine, and may even put out more than 100W.
>>
>> "May" is lazy, "Does" is more authoritative. Any reports of "Does?"
>
>The link from several days ago for the gentleman who measured the output
>Z being around 40 ohms would be a "does"..

"Does" with how much more power? When I observe the contents of the
page at that link = NOT ONE WATT MORE!

In fact, if we follow the logic of lowered Rs yielding more power, his
own data flips this! He reports the same 100W available at higher Rs.

However, all that aside, when you observe your comment above, the link
"Does not" offer any support to it. In fact on9cvd explicitly offers:
"This is an ambiguous message"

>> Which is curious when the manufacturer of the RD70HHF1 power
>> transistors gives them a "No destroy" rating into a mismatch of 20:1.
>> Such is the inertia of 1950s design-think with modern components.
>
>Yes, but the design limit might not be the transistor mismatch. It
>might be a thermal dissipation limit, or some other component that's the
>limiting factor.

Consult the original spec. It is quite specific. The characteristic
of
Load VSWR tolerance: Load VSWR=20:1(All Phase): No destroy
is not a dissipation reference.

73's
Richard Clark, KB7QHC

982. In need of a large NMO base.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 20:21:14 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <79af5d73-3477-4e3c-b35b-e28de06c26c2@v8g2000yqb.googlegroups.com>
Source record: 5033

I need an NMO mount for a rather long antenna that would put a lot of strain on the sheet metal of the roof of my van. Underneath the sheet metal I can use a fender washer. On top I need a mount with a larger base area and the NMO mount on top of that. It might look like a smallish mag mount but without the cable showing because that would come from inside through the hole. If anyone knows of a manufacturer that makes such a mount please pass the name along. I've tried several searches but without being able to guess what order the words would be in I get nowhere. Any tips would be appreciated.

--
Tom Horne, W3TDH

983. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 20:48:20 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <ca14f105-ac19-45b0-a5c3-28967b1ce95f@v10g2000yqn.googlegroups.com>
Source record: 5034

On 5 mayo, 17:06, "J. C. Mc Laughlin" <j...@power-net.net> wrote:
> Dear Wimpie: The content of the paragraph below may well rise above the
> noise of this thread.
> I expect to learn something of value from your comments about why twice the
> (apparent) output Z of an amplifier was of importance and what you did to
> have the amplifiers conform.
>
> 73,   Mac   N8TT
> ------------------"Wimpie" wrote in message
>
> news:d68fc390-da1b-45c7-8f2a-eda684959d03@u16g2000yqj.googlegroups.com...
>
> Hello Dave and John,
>
> <snip>
>
> Regarding the "academic discussion" I also agree. In my professional
> career where I designed several RF PA's, only 2 times the output
> impedance of the amplifier was of importance. In one of these cases I
> couldn't meet the specs and had to insert attenuation (some waste of
> power…).
>
> <snip>
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl
> Remove abc first before setting free the pigeon.
> --------------
>
> J. C. Mc Laughlin
> Michigan U.S.A.
> Home: J...@Power-Net.Net

Hello,

Regarding the defined output impedance.

The first time was during my thesis (third harmonic peaking PA). The stability margin was not very large (expected), and it could be improved by keeping the impedance seen from the base within certain limits. My teacher said, be careful, you only have two devices (BLW76). I tried to make an exciter (based on 2SC1307 BJT) with defined output impedance, but without success. So in the end I

increased the output power of the exciter and inserted a 3 dB attenuator, not elegant, but it did the job.

The second time was for H-field generation where wider bandwidth was achieved by adding a second resonator. When driving from a 50 Ohms source, it had a nice Chebyshev type pass band. Because of the ripple, it shows reflection in the pass band (this happens with Chebyshev response). However when driving from a PA (that was flat within the pass band when loaded with 50 Ohms), everything went wrong.

I redesigned the filter/coil combination, designed a switching PA (half bridge in class DE operation) and skipped the 50 Ohms (I designed around 8 Ohms). The PA drives the filter directly in such away that most of the time the PA sees a nice (mismatched) load (that is inductive for harmonics). This resulted in the desired pass band with significantly increased efficiency. The strength of the H-field is controlled by varying the supply voltage (PWM circuit).

Leaving out the 50 Ohms in between, saved several capacitors and inductors.

With kind regards,

Wim
PA3DJS
www.tetech.nl

984. Re: In need of a large NMO base.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 21:09:47 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ipv3l5$s6b$1@news.jpl.nasa.gov>
Source record: 5037

On 5/5/2011 1:21 PM, Tom Horne wrote:
> I need an NMO mount for a rather long antenna that would put a lot of
> strain on the sheet metal of the roof of my van. Underneath the sheet
> metal I can use a fender washer. On top I need a mount with a larger
> base area and the NMO mount on top of that.

What about using epoxy (or brazing) to mount a NMO on a larger piece of
metal.

It might look like a
> smallish mag mount but without the cable showing because that would
> come from inside through the hole. If anyone knows of a manufacturer
> that makes such a mount please pass the name along. I've tried
> several searches but without being able to guess what order the words
> would be in I get nowhere. Any tips would be appreciated.
>
> --
> Tom Horne, W3TDH

985. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 21:12:38 UTC
From: walt <walt@w2du.com>
Message-ID: <27f83cac-2baa-462c-aa4c-20a7d054af97@f2g2000yqf.googlegroups.com>
Source record: 5035

On May 5, 4:48 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 5 mayo, 17:06, "J. C. Mc Laughlin" <j...@power-net.net> wrote:
>
>
>
>
>
>
>
>
>
> > Dear Wimpie: The content of the paragraph below may well rise above the
> > noise of this thread.
> > I expect to learn something of value from your comments about why twice the
> > (apparent) output Z of an amplifier was of importance and what you did to
> > have the amplifiers conform.
>
> > 73,   Mac   N8TT
> > -------------------"Wimpie" wrote in message
>
> >news:d68fc390-da1b-45c7-8f2a-eda684959d03@u16g2000yqj.googlegroups.com...
>
> > Hello Dave and John,
>
> > <snip>
>
> > Regarding the "academic discussion" I also agree. In my professional
> > career where I designed several RF PA's, only 2 times the output
> > impedance of the amplifier was of importance. In one of these cases I
> > couldn't meet the specs and had to insert attenuation (some waste of
> > power…).
>
> > <snip>
>
> > With kind regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
> > Remove abc first before setting free the pigeon.
> > --------------
>
> > J. C. Mc Laughlin
> > Michigan U.S.A.
> > Home: J...@Power-Net.Net

>
> Hello,
>
> Regarding the defined output impedance.
>
> The first time was during my thesis (third harmonic peaking PA). The
> stability margin was not very large (expected), and it could be
> improved by keeping the impedance seen from the base within certain
> limits. My teacher said, be careful, you only have two devices
> (BLW76). I tried to make an exciter (based on 2SC1307 BJT) with
> defined output impedance, but without success. So in the end I
> increased the output power of the exciter and inserted a 3 dB
> attenuator, not elegant, but it did the job.
>
> The second time was for H-field generation where wider bandwidth was
> achieved by adding a second resonator. When driving from a 50 Ohms
> source, it had a nice Chebyshev type pass band. Because of the ripple,
> it shows reflection in the pass band (this happens with Chebyshev
> response). However when driving from a PA (that was flat within the
> pass band when loaded with 50 Ohms), everything went wrong.
>
> I redesigned the filter/coil combination, designed a switching PA
> (half bridge in class DE operation) and skipped the 50 Ohms (I
> designed around 8 Ohms). The PA drives the filter directly in such
> away that most of the time the PA sees a nice (mismatched) load (that
> is inductive for harmonics). This resulted in the desired pass band
> with significantly increased efficiency. The strength of the H-field
> is controlled by varying the supply voltage (PWM circuit).
>
> Leaving out the 50 Ohms in between, saved several capacitors and
> inductors.
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

Hey Mac, are you planning on attending the Chapter 10 QCWA meeting in Cadillac Saturday? I'm planning on attending, so hope to see you there!!!

Walt, W2DU

986. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-05 21:26:46 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <9da24852-4147-4b47-8df6-be73e5e06c35@w21g2000yqm.googlegroups.com>
Source record: 5036

On 5 mayo, 19:23, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> John KD5YI wrote:
> > On 5/4/2011 7:54 PM, Jim Lux wrote:
> >> John KD5YI wrote:
>
> >>> Acceptable is what the manufacturer recommends for his gear. What does
> >>> this have to do with the device's output impedance?
>
> >> Absolutely nothing.. which is the point.
>
> > Are we arguing the same point?
>
> >> but the summary is,
>
> > That it is a bag of worms? I'm waiting with baited breath...
>
> Exactly..
>
> In fact, as interesting as it would be to measure the output impedance
> of my radio, I started to think about what it would buy me, and came to
> the conclusion, almost nothing (other than satisfying curiosity).
>
> It *might* be interesting to look at (and write an article for QST/QEX
> or something) "optimizing radiated power". Answering the question: do
> you really want a 50 ohm match on your antenna analyzer, or do you want
> maximum net power at the antenna feedpoint, and what that might mean for
> typical 100W solid state rigs, antennas, etc.
>
> (as a practical matter, this is what automatic antenna tuners actually
> adjust for: either minimum reflected power, or maximum fwd-ref)
>
> but it's possible that deliberately running a mismatch (as shown on your
> rig's SWR meter) might actually result in more radiated power. e.g. if
> at 1:1 you have 100W fwd and 0 rev, but at 2:1 you have 150W fwd and 15W
> reflected, so you're actually net 135W vs 100W; assuming your rig
> doesn't otherwise have any problems.

Hello Jim,

I agree with the PA load mismatch issue. It is possible to get (some)
more net power by applying mismatch to a PA stage (from experience).
But frequently it comes with too much increase in input power (so very
hot heatsink).

In case of high efficiency designs, the active devices may communicate
to you by means of smoke or ejection of (hot) particles.

Wim
PA3DJS
www.tetech.nl
In case of PM, tell the pigeon that abc is not in the address.

987. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 01:19:23 UTC
From: walt <walt@w2du.com>
Message-ID: <b04c2349-3bfa-46c4-afaf-897b45f84677@y12g2000yqh.googlegroups.com>
Source record: 5038

On May 5, 5:26 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 5 mayo, 19:23, Jim Lux <james.p....@jpl.nasa.gov> wrote:
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> > John KD5YI wrote:
> > > On 5/4/2011 7:54 PM, Jim Lux wrote:
> > >> John KD5YI wrote:
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> > >>> Acceptable is what the manufacturer recommends for his gear. What does
> > >>> this have to do with the device's output impedance?
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> > >> Absolutely nothing.. which is the point.
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> > > Are we arguing the same point?
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> > >> but the summary is,
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> > > That it is a bag of worms? I'm waiting with baited breath...
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> > Exactly..
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> > In fact, as interesting as it would be to measure the output impedance
> > of my radio, I started to think about what it would buy me, and came to
> > the conclusion, almost nothing (other than satisfying curiosity).
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> > It *might* be interesting to look at (and write an article for QST/QEX
> > or something) "optimizing radiated power". Answering the question: do
> > you really want a 50 ohm match on your antenna analyzer, or do you want
> > maximum net power at the antenna feedpoint, and what that might mean for
> > typical 100W solid state rigs, antennas, etc.
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> > (as a practical matter, this is what automatic antenna tuners actually
> > adjust for: either minimum reflected power, or maximum fwd-ref)
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> > but it's possible that deliberately running a mismatch (as shown on your
> > rig's SWR meter) might actually result in more radiated power. e.g. if
> > at 1:1 you have 100W fwd and 0 rev, but at 2:1 you have 150W fwd and 15W

> > reflected, so you're actually net 135W vs 100W; assuming your rig
> > doesn't otherwise have any problems.
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> Hello Jim,
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> I agree with the PA load mismatch issue. It is possible to get (some)
> more net power by applying mismatch to a PA stage (from experience).
> But frequently it comes with too much increase in input power (so very
> hot heatsink).
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> In case of high efficiency designs, the active devices may communicate
> to you by means of smoke or ejection of (hot) particles.
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Hi Wimpie and KD5YI,

Will you please explain how it is possible to get more power delivered by applying a mismatch to the output of a PA?

And for KD5YI specifically, I believe you have presented some inaccurate math calculations. You begin with delivering 100w into a matched load. Then you say you mismatch to 2:1 and get 135w forward and 15w reflected, leaving 120w delivered. You must be kidding!!

First, with a 2:1 mismatch and 100w delivered by the PA, the reflected power is 11.111w, which when added to 100w from the source, the forward power is 111.11 watts. When the reflected power that returns to the load is subtracted from the forward power, the result is 100w. You've heard the expression 'there is no free lunch'?

So please explain to me, if you can, how you can deliver 120w when the source is 100w.

Walt

988. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 01:24:05 UTC
From: walt <walt@w2du.com>
Message-ID: <b08fcb6c-3f12-40d8-970e-da71de500901@a18g2000yqj.googlegroups.com>
Source record: 5039

On May 5, 9:19 pm, walt <w...@w2du.com> wrote:
> On May 5, 5:26 pm, Wimpie <wimabc...@tetech.nl> wrote:
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> > > you really want a 50 ohm match on your antenna analyzer, or do you want
> > > maximum net power at the antenna feedpoint, and what that might mean for
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> Hi Wimpie and KD5YI,
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> and 15w reflected, leaving 120w delivered. You must be kidding!!
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> to the load is subtracted from the forward power, the result is 100w.
> You've heard the expression 'there is no free lunch'?
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> So please explain to me, if you can, how you can deliver 120w when the
> source is 100w.
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> Walt

Ooops, my error, you said you're getting 130w delivered, not 120w as I
said incorrectly.

Walt

989. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 04:34:07 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ipvto4$d7s$1@dont-email.me>
Source record: 5040

On 5/5/2011 8:24 PM, walt wrote:
> On May 5, 9:19 pm, walt<w...@w2du.com> wrote:
>> On May 5, 5:26 pm, Wimpie<wimabc...@tetech.nl> wrote:
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>>>> rig's SWR meter) might actually result in more radiated power. e.g. if
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>> source is 100w.
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>> Walt
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> Ooops, my error, you said you're getting 130w delivered, not 120w as I
> said incorrectly.
>
> Walt

I did not present any numbers, calculations, or assumed conditions,
inaccurate or otherwise. You might want to reply to Jim Lux.

John - KD5YI

990. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 10:30:32 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <4356ce4c-d8f9-43d7-9793-7c99ea89c1b3@p7g2000yqh.googlegroups.com>
Source record: 5041

On 6 mayo, 03:19, walt <w...@w2du.com> wrote:
> On May 5, 5:26 pm, Wimpie <wimabc...@tetech.nl> wrote:
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> > On 5 mayo, 19:23, Jim Lux <james.p....@jpl.nasa.gov> wrote:
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No he is not kidding. I observed the same. At that time I was lucky to have full access to HP, Advantest and Rohde & Schwarz equipment to double-check everything (I first blamed my own gear). You should leave the idea that all PA's have 50 Ohms output impedance, then it is easy to explain yourself.

A certain load that has mismatch referenced to 50 Ohms may have a nice match to a system with non-50 Ohms output impedance.

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Wim
PA3DJS

www.tetech.nl

991. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 15:20:10 UTC
From: walt <walt@w2du.com>
Message-ID: <15ff56ff-3c35-4a86-bf1f-018c12320d1b@z13g2000prk.googlegroups.com>
Source record: 5042

On May 6, 6:30 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 6 mayo, 03:19, walt <w...@w2du.com> wrote:
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> > > > > On 5/4/2011 7:54 PM, Jim Lux wrote:
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> D, -DE, etc). I am currently designing a balanced class-E 500W
> stage. It can deliver 1 kW, but within very short time the mosfet's
> will explode (if the supervisory circuit doesn't act).
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> Wim
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Wim, are you saying that by using Class E amps you are able to violate the Laws of Physics pertaining to the Conjugate Matching Theorem and the Maximum Power Delivery Theorem? I cannot agree.

A load doesn't care what the source is. If the load impedance is the complex conjugate of the source, all available power will be delivered to the load. Then, if the load impedance is either increased or decreased, the power delivered will decrease. Are you now saying that the concept I just stated above is no longer true? If you are, please explain in detail why this is so. How does 'high efficiency' overcome the requirement for impedance matching in the delivery of power?

And are you agreeing with an earlier poster that with a 100w source and a mismatch of 2:1 the forward power will be 135w and 15w reflected, the power delivered to the load will be 130w? If so, will you please explain in detail how this can occur?

Walt

992. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 16:43:27 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7d5277f6-983b-4649-a254-a609bf53a37e@c5g2000yqd.googlegroups.com>
Source record: 5043

On 6 mayo, 17:20, walt <w...@w2du.com> wrote:
> On May 6, 6:30 am, Wimpie <wimabc...@tetech.nl> wrote:
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> the Laws of Physics pertaining to the Conjugate Matching Theorem and
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Walt, Maybe you should familiarize yourself with class E (and other high efficient topologies). Set up a simulation (or measurement) and try to apply your "conjugated match" thing. You will find out that you can't make a class E PA that operates under conjugated match, unless you are going to play with the power supply's internal resistance (so the system becomes power supply limited). My current design outputs 500W into 4.5 Ohms, however the output impedance (load pulling) is < 1 Ohm.

The reason for non-conjugated matched operation is that in class-E the device is in voltage saturation for about 50% of the time. During that time the device has no gain, so a device used in class-E has less gain then the same device used in a non-saturated application. In other words: tuning is designed for highest efficiency, not highest output power.

>
> A load doesn't care what the source is. If the load impedance is the
> complex conjugate of the source, all available power will be delivered
> to the load.

Quote from text above: "If the load impedance is the complex conjugate of the source.....". This If-statement has a "false" result for many PAs, try to broaden your view.

> Then, if the load impedance is either increased or
> decreased, the power delivered will decrease. Are you now saying that
> the concept I just stated above is no longer true? If you are, please
> explain in detail why this is so. How does 'high efficiency' overcome
> the requirement for impedance matching in the delivery of power?
>
> And are you agreeing with an earlier poster that with a 100w source
> and a mismatch of 2:1 the forward power will be 135w and 15w
> reflected, the power delivered to the load will be 130w? If so, will
> you please explain in detail how this can occur?

Yes I agree with him, see my reaction to that statement

My class-E PA design that I am doing now is designed for a 4.5 Ohms nominal load. If I change that load to 2.5 Ohms (VSWR=1.8), output increases to > 700W, but it will be destroyed due too non-favourite combination of Vds and Id.

> Walt

With kind regards,

Wim
PA3DJS
www.tetech.nl

993. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 20:17:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bc5ac788-93ed-4054-b6f9-f6c7b79911ce@b35g2000yqn.googlegroups.com>
Source record: 5044

On May 6, 11:43 am, Wimpie <wimabc...@tetech.nl> wrote:
> You will find out that you
> can't make a class E PA that operates under conjugated match, unless
> you are going to play with the power supply's internal resistance ...

As I understand it, Walt's approach is to pick a point inside the
source at which the output becomes linear through filtering and call
the impedance at that point the linear "source impedance" (including
some boundary conditions). It is akin to the motion of a pendulum in a
clock being linear even though the sustaining energy comes in non-
linear pulses.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

994. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 20:18:16 UTC
From: walt <walt@w2du.com>
Message-ID: <19a87474-4331-4339-a0f6-8c465021e931@z7g2000prh.googlegroups.com>
Source record: 5045

On May 6, 12:43 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 6 mayo, 17:20, walt <w...@w2du.com> wrote:
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>
> > On May 6, 6:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > On 6 mayo, 03:19, walt <w...@w2du.com> wrote:
>
> > > > On May 5, 5:26 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > > > On 5 mayo, 19:23, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > > > > > John KD5YI wrote:
> > > > > > > On 5/4/2011 7:54 PM, Jim Lux wrote:
> > > > > > >> John KD5YI wrote:
>
> > > > > > >>> Acceptable is what the manufacturer recommends for his gear. What does
> > > > > > >>> this have to do with the device's output impedance?
>
> > > > > > >> Absolutely nothing.. which is the point.
>
> > > > > > > Are we arguing the same point?
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> > > > > > >> but the summary is,
>
> > > > > > > That it is a bag of worms? I'm waiting with baited breath...
>
> > > > > > Exactly..
>
> > > > > > In fact, as interesting as it would be to measure the output impedance
> > > > > > of my radio, I started to think about what it would buy me, and came to
> > > > > > the conclusion, almost nothing (other than satisfying curiosity).
>
> > > > > > It *might* be interesting to look at (and write an article for QST/QEX
> > > > > > or something) "optimizing radiated power". Answering the question: do
> > > > > > you really want a 50 ohm match on your antenna analyzer, or do you want
> > > > > > maximum net power at the antenna feedpoint, and what that might mean for

> > > > > > typical 100W solid state rigs, antennas, etc.
>
> > > > > > (as a practical matter, this is what automatic antenna tuners actually
> > > > > > adjust for: either minimum reflected power, or maximum fwd-ref)
>
> > > > > > but it's possible that deliberately running a mismatch (as shown on your
> > > > > > rig's SWR meter) might actually result in more radiated power. e.g. if
> > > > > > at 1:1 you have 100W fwd and 0 rev, but at 2:1 you have 150W fwd and 15W
> > > > > > reflected, so you're actually net 135W vs 100W; assuming your rig
> > > > > > doesn't otherwise have any problems.
>
> > > > > Hello Jim,
>
> > > > > I agree with the PA load mismatch issue. It is possible to get (some)
> > > > > more net power by applying mismatch to a PA stage (from experience).
> > > > > But frequently it comes with too much increase in input power (so very
> > > > > hot heatsink).
>
> > > > > In case of high efficiency designs, the active devices may communicate
> > > > > to you by means of smoke or ejection of (hot) particles.
>
> > > > > Wim
> > > > > PA3DJSwww.tetech.nl
> > > > > In case of PM, tell the pigeon that abc is not in the address.
>
> > > > Hi Wimpie and KD5YI,
>
> > > > Will you please explain how it is possible to get more power delivered
> > > > by applying a mismatch to the output of a PA?
>
> > > > And for KD5YI specifically, I believe you have presented some
> > > > inaccurate math calculations. You begin with delivering 100w into a
> > > > matched load. Then you say you mismatch to 2:1 and get 135w forward
> > > > and 15w reflected, leaving 120w delivered. You must be kidding!!
>
> > > No he is not kidding. I observed the same. At that time I was lucky to
> > > have full access to HP, Advantest and Rohde & Schwarz equipment to
> > > double-check everything (I first blamed my own gear).   You should
> > > leave the idea that all PA's have 50 Ohms output impedance, then it is
> > > easy to explain yourself.
>
> > > A certain load that has mismatch referenced to 50 Ohms may have a nice
> > > match to a system with non-50 Ohms output impedance.
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> > > > First, with a 2:1 mismatch and 100w delivered by the PA, the reflected
> > > > power is 11.111w, which when added to 100w from the source, the
> > > > forward power is 111.11 watts. When the reflected power that returns
> > > > to the load is subtracted from the forward power, the result is 100w.
> > > > You've heard the expression 'there is no free lunch'?
>

> > > > So please explain to me, if you can, how you can deliver 120w when the
> > > > source is 100w.
>
> > > > Walt
>
> > > The extreme cases where you can get significantly more net output
> > > power by applying mismatch, are PA's with high efficiency (class-E, -
> > > D, -DE, etc). I am currently designing a balanced class-E 500W
> > > stage. It can deliver 1 kW, but within very short time the mosfet's
> > > will explode (if the supervisory circuit doesn't act).
>
> > > Wim
> > > PA3DJSwww.tetech.nl
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> > Wim, are you saying that by using Class E amps you are able to violate
> > the Laws of Physics pertaining to the Conjugate Matching Theorem and
> > the Maximum Power Delivery Theorem? I cannot agree.
>
> Walt, Maybe you should familiarize yourself with class E (and other
> high efficient topologies). Set up a simulation (or measurement) and
> try to apply your "conjugated match" thing. You will find out that you
> can't make a class E PA that operates under conjugated match, unless
> you are going to play with the power supply's internal resistance (so
> the system becomes power supply limited). My current design outputs
> 500W into 4.5 Ohms, however the output impedance (load pulling) is < 1
> Ohm.
>
> The reason for non-conjugated matched operation is that in class-E the
> device is in voltage saturation for about 50% of the time. During that
> time the device has no gain, so a device used in class-E has less gain
> then the same device used in a non-saturated application. In other
> words: tuning is designed for highest efficiency, not highest output
> power.
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> > A load doesn't care what the source is. If the load impedance is the
> > complex conjugate of the source, all available power will be delivered
> > to the load.
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> Quote from text above: "If the load impedance is the complex conjugate
> of the source.....". This If-statement has a "false" result for many
> PAs, try to broaden your view.
>
> > Then, if the load impedance is either increased or
> > decreased, the power delivered will decrease. Are you now saying that
> > the concept I just stated above is no longer true? If you are, please
> > explain in detail why this is so. How does 'high efficiency' overcome
> > the requirement for impedance matching in the delivery of power?
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> > And are you agreeing with an earlier poster that with a 100w source
> > and a mismatch of 2:1 the forward power will be 135w and 15w
> > reflected, the power delivered to the load will be 130w? If so, will
> > you please explain in detail how this can occur?
>
> Yes I agree with him, see my reaction to that statement
>
> My class-E PA design that I am doing now is designed for a 4.5 Ohms
> nominal load. If I change that load to 2.5 Ohms (VSWR=1.8), output
> increases to > 700W, but it will be destroyed due too non-favourite
> combination of Vds and Id.
>
> > Walt
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

Well, Wim, I still don't see how a 2:1 mismatch can achieve 135w forward and 15w reflected with a 100w source. How can a 2:1 mismatch achieve 130w forward power, when that mismatch can only reflect 0.111 x 100w? Also, how can that mismatch achieve 15w of reflected power when that mismatch can only reflect 0.111 x 100w? And how can 11.111 watts of forward power add to 100w to achieve 130w? I don't see how the power reflected at a mismatched load can be affected by the nature of the source.

But I do understand how with a 4.5-ohm load can deliver 500w and a 2.5-ohm load can deliver 700w. I now understand what you mean by a mismatch can increase the power delivery. (Actually, a change in mismatch)

But Wim, you pulled a fast one one us!!! Until now you didn't tell us that the source resistance of the source was 1 ohm!!!

You also didn't tell us what the power would be if the load was 1 ohm (thus matching the load to the source) if the power supply was sufficiently large so the power delivery would not be limited by the power supply. So in reality, you really DON'T get an increase in power delivery by mismatching, but actually a decrease. What you're really doing is obtaining an increase in power delivery by decreasing the amount of mismatch from 4.5:1 to 2.5:1.

So now I understand that you haven't violated any laws of physics, but IMHO, you have been misleading when you say you obtain a increase in power by mismatching, because that statement isn't really true, is it?

take care,

Walt

995. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 21:50:28 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b7debcd9-742e-4207-90fe-70a42f68dc2c@28g2000yqu.googlegroups.com>
Source record: 5046

```
On 6 mayo, 22:18, walt <w...@w2du.com> wrote:
> On May 6, 12:43 pm, Wimpie <wimabc...@tetech.nl> wrote:
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>
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> > On 6 mayo, 17:20, walt <w...@w2du.com> wrote:
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> > > reflected, the power delivered to the load will be 130w? If so, will
> > > you please explain in detail how this can occur?
>
> > Yes I agree with him, see my reaction to that statement

> > My class-E PA design that I am doing now is designed for a 4.5 Ohms
> > nominal load. If I change that load to 2.5 Ohms (VSWR=1.8), output
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> > combination of Vds and Id.
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> > With kind regards,
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> > Wim
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> x 100w? Also, how can that mismatch achieve 15w of reflected power
> when that mismatch can only reflect 0.111 x 100w? And how can 11.111
> watts of forward power add to 100w to achieve 130w? I don't see how
> the power reflected at a mismatched load can be affected by the nature
> of the source.
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> ohm load can deliver 700w. I now understand what you mean by a
> mismatch can increase the power delivery. (Actually, a change in
> mismatch)
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> But Wim, you pulled a fast one one us!!! Until now you didn't tell us
> that the source resistance of the source was 1 ohm!!!
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> You also didn't tell us what the power would be if the load was 1 ohm
> (thus matching the load to the source) if the power supply was
> sufficiently large so the power delivery would not be limited by the
> power supply. So in reality, you really DON'T get an increase in power
> delivery by mismatching, but actually a decrease. What you're really
> doing is obtaining an increase in power delivery by decreasing the
> amount of mismatch from 4.5:1 to 2.5:1.
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> So now I understand that you haven't violated any laws of physics, but
> IMHO, you have been misleading when you say you obtain a increase in
> power by mismatching, because that statement isn't really true, is
> it?
>
> take care,
>
> Walt

Hello Walt,

Off course I agree with you that you can never have more power then
the conjugated matched power, but many PAs don't operate in this

regime (as my very extreme class-E case). It was the reason for mentioning:

"A certain load that has mismatch referenced to 50 Ohms may have a nice
match to a system with non-50 Ohms output impedance."

The problem is in whether you define mismatch based on the ohmic value printed on the back of the PA, or on the actual output impedance of the PA (that you mostly don't know in case of many solid state PA's).

As the actual output impedance of the PA may not be 50 Ohms (for example 100 Ohms), a 50 Ohms load (as mentioned on the back of the PA) will provide the stated power (for example 100W). By applying 100 Ohms (that is VSWR = 2 for a 50 Ohms reference), the net power will increase to 112 W. Actually it wasn't me to experience this mismatch isue first, but my father during the time that CB was very popular overhere.

The above example assumes that the output impedance of the PA is independent of load. Of course this is only true when the actual voltage across the active device and current through it doesn't saturate the active device too much.

I think the saturation issue is one of the advantages of a linear PA with accessible R an X tuning. You just tune for maximum output given a certain load and drive (you may use plate current as a guide also). As long as your SSB signal's PEP stays below that output power, your active device will not go into voltage saturation and IMD will likely be acceptable.

In case of a wide band push-pull PA, VSWR = 2 (with inconvenient phase) may provide a load where the active devices (mosfet or BJT), will go into voltage saturation at a net output power below the rated power of the PA. For constant envelope modulation this isn't problem, but for SSB/AM it isn't good.

With kind regards,

Wim
PA3DJS
www.tetech.nl

996. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 22:04:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <trr8s65nufl0mh3gbcr70mamkms8c83rcp@4ax.com>
Source record: 5047

On Fri, 6 May 2011 13:18:16 -0700 (PDT), walt <walt@w2du.com> wrote:

>Well, Wim, I still don't see how a 2:1 mismatch can achieve 135w
>forward and 15w reflected with a 100w source.

Hi Walt,

Irrespective of who the author is of this statement (I've lost track),
I too would like to see how this is reconciled.

But seeing that you've asked several times....

73's
Richard Clark, KB7QHC

997. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 22:24:35 UTC
From: walt <walt@w2du.com>
Message-ID: <d9bb4799-a6d9-4734-b309-277820ec3319@e21g2000yqe.googlegroups.com>
Source record: 5048

On May 6, 5:50 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 6 mayo, 22:18, walt <w...@w2du.com> wrote:
>
> > On May 6, 12:43 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > On 6 mayo, 17:20, walt <w...@w2du.com> wrote:
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> > > > On May 6, 6:30 am, Wimpie <wimabc...@tetech.nl> wrote:
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> > > > > > On May 5, 5:26 pm, Wimpie <wimabc...@tetech.nl> wrote:
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> > > > > > > > >> Absolutely nothing.. which is the point.
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> > > > > > > > > That it is a bag of worms? I'm waiting with baited breath...
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> > > > > > > > of my radio, I started to think about what it would buy me, and came to
> > > > > > > > the conclusion, almost nothing (other than satisfying curiosity).
>
> > > > > > > > It *might* be interesting to look at (and write an article for QST/QEX
> > > > > > > > or something) "optimizing radiated power". Answering the question: do
> > > > > > > > you really want a 50 ohm match on your antenna analyzer, or do you want
> > > > > > > > maximum net power at the antenna feedpoint, and what that might mean for
> > > > > > > > typical 100W solid state rigs, antennas, etc.
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> > > > > > > > (as a practical matter, this is what automatic antenna tuners actually
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> > > > > > > > > at 1:1 you have 100W fwd and 0 rev, but at 2:1 you have 150W fwd and 15W
> > > > > > > > > reflected, so you're actually net 135W vs 100W; assuming your rig
> > > > > > > > > doesn't otherwise have any problems.
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> > > > > > > > I agree with the PA load mismatch issue. It is possible to get (some)
> > > > > > > > more net power by applying mismatch to a PA stage (from experience).
> > > > > > > > But frequently it comes with too much increase in input power (so very
> > > > > > > > hot heatsink).
>
> > > > > > > > In case of high efficiency designs, the active devices may communicate
> > > > > > > > to you by means of smoke or ejection of (hot) particles.
>
> > > > > > > > Wim
> > > > > > > > PA3DJSwww.tetech.nl
> > > > > > > > In case of PM, tell the pigeon that abc is not in the address.
>
> > > > > > > Hi Wimpie and KD5YI,
>
> > > > > > > Will you please explain how it is possible to get more power delivered
> > > > > > > by applying a mismatch to the output of a PA?
>
> > > > > > > And for KD5YI specifically, I believe you have presented some
> > > > > > > inaccurate math calculations. You begin with delivering 100w into a
> > > > > > > matched load. Then you say you mismatch to 2:1 and get 135w forward
> > > > > > > and 15w reflected, leaving 120w delivered. You must be kidding!!
>
> > > > > > No he is not kidding. I observed the same. At that time I was lucky to
> > > > > > have full access to HP, Advantest and Rohde & Schwarz equipment to
> > > > > > double-check everything (I first blamed my own gear).   You should
> > > > > > leave the idea that all PA's have 50 Ohms output impedance, then it is
> > > > > > easy to explain yourself.
>
> > > > > > A certain load that has mismatch referenced to 50 Ohms may have a nice
> > > > > > match to a system with non-50 Ohms output impedance.
>
> > > > > > First, with a 2:1 mismatch and 100w delivered by the PA, the reflected
> > > > > > power is 11.111w, which when added to 100w from the source, the
> > > > > > forward power is 111.11 watts. When the reflected power that returns
> > > > > > to the load is subtracted from the forward power, the result is 100w.
> > > > > > You've heard the expression 'there is no free lunch'?
>
> > > > > > So please explain to me, if you can, how you can deliver 120w when the
> > > > > > source is 100w.
>
> > > > > > Walt

>
> > > > > The extreme cases where you can get significantly more net output
> > > > > power by applying mismatch, are PA's with high efficiency (class-E, -
> > > > > D, -DE, etc). I am currently designing a balanced class-E 500W
> > > > > stage. It can deliver 1 kW, but within very short time the mosfet's
> > > > > will explode (if the supervisory circuit doesn't act).
>
> > > > > Wim
> > > > > PA3DJSwww.tetech.nl
>
> > > > Wim, are you saying that by using Class E amps you are able to violate
> > > > the Laws of Physics pertaining to the Conjugate Matching Theorem and
> > > > the Maximum Power Delivery Theorem? I cannot agree.
>
> > > Walt, Maybe you should familiarize yourself with class E (and other
> > > high efficient topologies). Set up a simulation (or measurement) and
> > > try to apply your "conjugated match" thing. You will find out that you
> > > can't make a class E PA that operates under conjugated match, unless
> > > you are going to play with the power supply's internal resistance (so
> > > the system becomes power supply limited). My current design outputs
> > > 500W into 4.5 Ohms, however the output impedance (load pulling) is < 1
> > > Ohm.
>
> > > The reason for non-conjugated matched operation is that in class-E the
> > > device is in voltage saturation for about 50% of the time. During that
> > > time the device has no gain, so a device used in class-E has less gain
> > > then the same device used in a non-saturated application. In other
> > > words: tuning is designed for highest efficiency, not highest output
> > > power.
>
> > > > A load doesn't care what the source is. If the load impedance is the
> > > > complex conjugate of the source, all available power will be delivered
> > > > to the load.
>
> > > Quote from text above: "If the load impedance is the complex conjugate
> > > of the source.....". This If-statement has a "false" result for many
> > > PAs, try to broaden your view.
>
> > > > Then, if the load impedance is either increased or
> > > > decreased, the power delivered will decrease. Are you now saying that
> > > > the concept I just stated above is no longer true? If you are, please
> > > > explain in detail why this is so. How does 'high efficiency' overcome
> > > > the requirement for impedance matching in the delivery of power?
>
> > > > And are you agreeing with an earlier poster that with a 100w source
> > > > and a mismatch of 2:1 the forward power will be 135w and 15w
> > > > reflected, the power delivered to the load will be 130w? If so, will
> > > > you please explain in detail how this can occur?
>
> > > Yes I agree with him, see my reaction to that statement

>
> > > My class-E PA design that I am doing now is designed for a 4.5 Ohms
> > > nominal load. If I change that load to 2.5 Ohms (VSWR=1.8), output
> > > increases to > 700W, but it will be destroyed due too non-favourite
> > > combination of Vds and Id.
>
> > > > Walt
>
> > > With kind regards,
>
> > > Wim
> > > PA3DJSwww.tetech.nl
>
> > Well, Wim, I still don't see how a 2:1 mismatch can achieve 135w
> > forward and 15w reflected with a 100w source. How can a 2:1 mismatch
> > achieve 130w forward power, when that mismatch can only reflect 0.111
> > x 100w? Also, how can that mismatch achieve 15w of reflected power
> > when that mismatch can only reflect 0.111 x 100w? And how can 11.111
> > watts of forward power add to 100w to achieve 130w? I don't see how
> > the power reflected at a mismatched load can be affected by the nature
> > of the source.
>
> > But I do understand how with a 4.5-ohm load can deliver 500w and a 2.5-
> > ohm load can deliver 700w. I now understand what you mean by a
> > mismatch can increase the power delivery. (Actually, a change in
> > mismatch)
>
> > But Wim, you pulled a fast one one us!!! Until now you didn't tell us
> > that the source resistance of the source was 1 ohm!!!
>
> > You also didn't tell us what the power would be if the load was 1 ohm
> > (thus matching the load to the source) if the power supply was
> > sufficiently large so the power delivery would not be limited by the
> > power supply. So in reality, you really DON'T get an increase in power
> > delivery by mismatching, but actually a decrease. What you're really
> > doing is obtaining an increase in power delivery by decreasing the
> > amount of mismatch from 4.5:1 to 2.5:1.
>
> > So now I understand that you haven't violated any laws of physics, but
> > IMHO, you have been misleading when you say you obtain a increase in
> > power by mismatching, because that statement isn't really true, is
> > it?
>
> > take care,
>
> > Walt
>
> Hello Walt,
>
> Off course I agree with you that you can never have more power then

> the conjugated matched power, but many PAs don't operate in this
> regime (as my very extreme class-E case). It was the reason for
> mentioning:
>
> "A certain load that has mismatch referenced to 50 Ohms may have a
> nice
> match to a system with non-50 Ohms output impedance."
>
> The problem is in whether you define mismatch based on the ohmic value
> printed on the back of the PA, or on the actual output impedance of
> the PA (that you mostly don't know in case of many solid state PA's).
>
> As the actual output impedance of the PA may not be 50 Ohms (for
> example 100 Ohms), a 50 Ohms load (as mentioned on the back of the PA)
> will provide the stated power (for example 100W). By applying 100
> Ohms (that is VSWR = 2 for a 50 Ohms reference), the net power will
> increase to 112 W.   Actually it wasn't me to experience this mismatch
> isue first, but my father during the time that CB was very popular
> overhere.
>
> The above example assumes that the output impedance of the PA is
> independent of load. Of course this is only true when the actual
> voltage across the active device and current through it doesn't
> saturate the active device too much.
>
> I think the saturation issue is one of the advantages of a linear PA
> with accessible R an X tuning. You just tune for maximum output given
> a certain load and drive (you may use plate current as a guide also).
> As long as your SSB signal's PEP stays below that output power, your
> active device will not go into voltage saturation and IMD will likely
> be acceptable.
>
> In case of a wide band push-pull PA, VSWR = 2 (with inconvenient
> phase) may provide a load where the active devices (mosfet or BJT),
> will go into voltage saturation at a net output power below the rated
> power of the PA. For constant envelope modulation this isn't problem,
> but for SSB/AM it isn't good.
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

Thanks for the reply, Wim, but you seem to be evading my questions and concerns by what appears to be going off on tangents unrelated to my questions.

Perhaps I need to refresh Electronics 101, because I simply can't understand the example you provided.

You have a 100-ohm source terminated with a 50-ohm load that provides 100w. But you say with the VSWR = 2 the net power will increase to 112w. How does this happen?

Wim, you are making statements that seem to disagree with known principles, yet you give no explanation of how these statements can be justified in relation to the known principles.

And please tell me, Wim, what RF amps do you know of that have the source impedance indicated on the back? And you refer to solid-state amps, when you know my discussion (and experience) is with tube amps with pi-network outputs. I am totally ignorant on the operation of solid-state amps.

I would like to be learning something from my discussions with you, but I'm sorry, Wim, you're making me feel more stupid the more we continue.

Walt

998. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 22:53:28 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iq1u5c$8jf$1@dont-email.me>
Source record: 5049

On 5/6/2011 5:04 PM, Richard Clark wrote:
> On Fri, 6 May 2011 13:18:16 -0700 (PDT), walt<walt@w2du.com> wrote:
>
>> Well, Wim, I still don't see how a 2:1 mismatch can achieve 135w
>> forward and 15w reflected with a 100w source.
>
> Hi Walt,
>
> Irrespective of who the author is of this statement (I've lost track),
> I too would like to see how this is reconciled.
>
> But seeing that you've asked several times....
>
> 73's
> Richard Clark, KB7QHC

Here is the header from that message:

From: Jim Lux <james.p.lux@jpl.nasa.gov>
Newsgroups: rec.radio.amateur.antenna
Subject: Re: Transmitter Output Impedance
Date: Thu, 05 May 2011 10:23:10 -0700
Organization: JPL Information Services, InterNetNews
Lines: 41
Message-ID: <ipumc8nsa1@news.jpl.nasa.gov>
References:
<7634e01d-847f-48ea-be5b-17d56c7c2329@k3g2000prl.googlegroups.com>
<ipq723bon1@dont-email.me> <iprv4urit1@news.jpl.nasa.gov>
<ipsmu1$rf2$1@dont-email.me> <ipssf8$55a$1@news.jpl.nasa.gov>
<ipsu5o$f81$1@dont-email.me>
NNTP-Posting-Host: seraphic.jpl.nasa.gov
Mime-Version: 1.0
Content-Type: text/plain; charset=ISO-8859-1; format=flowed
Content-Transfer-Encoding: 7bit
X-Trace: news.jpl.nasa.gov 1304616136 24458 137.79.6.96 (5 May 2011
17:22:16 GMT)
X-Complaints-To: newsmaster@jpl.nasa.gov
NNTP-Posting-Date: Thu, 5 May 2011 17:22:16 +0000 (UTC)
User-Agent: Thunderbird 2.0.0.24 (Windows/20100228)
In-Reply-To: <ipsu5o$f81$1@dont-email.me>
Xref: feeder.eternal-september.org rec.radio.amateur.antenna:13509

999. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-06 23:51:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a4c99702-3119-48b2-89ae-b06f029f9652@r20g2000yqd.googlegroups.com>
Source record: 5050

On May 6, 5:24 pm, walt <w...@w2du.com> wrote:
> You have a 100-ohm source terminated with a 50-ohm load that provides
> 100w. But you say with the VSWR = 2 the net power will increase to
> 112w. How does this happen?

Walt, here is probably what Wim means by that.

Source------1/2WL 50 ohm lossless------RLoad

Vsource = 212v, Rsource=100 ohms

If Rload = 50 ohms, PLoad = 100w

If Rload = 100 ohms, PLoad=112.5w

Wim must be assuming a 50 ohm SWR in both cases.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1000. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-07 01:16:10 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <GqmdnVLXpdPGAFnQnZ2dnUVZ_t-dnZ2d@bright.net>
Source record: 5051

Dear Wimpie: Many thanks. I am always on the look-out for applied electronic problems for a colleague who is particularly skilled at crafting practice problems for the professional engineering exam (chartered engineer in Europe).

Your comments about filter response reminds me of the (analog) FM receivers that had wonderful suppression of the next channel over, but horrible performance in the presence of noise from ignition - while other receivers had great performance in both respects. As you know, it had to do with phase response. Chebyshev is not always desirable.

Warm regards, Mac N8TT

"Wimpie" wrote in message
news:ca14f105-ac19-45b0-a5c3-28967b1ce95f@v10g2000yqn.googlegroups.com...

On 5 mayo, 17:06, "J. C. Mc Laughlin" <j...@power-net.net> wrote:
> Dear Wimpie: The content of the paragraph below may well rise above the
> noise of this thread.
> I expect to learn something of value from your comments about why twice
> the
> (apparent) output Z of an amplifier was of importance and what you did to
> have the amplifiers conform.
>
> 73, Mac N8TT
> --------------------"Wimpie" wrote in message
>
> news:d68fc390-da1b-45c7-8f2a-eda684959d03@u16g2000yqj.googlegroups.com...
>
> Hello Dave and John,
>
> <snip>
>
> Regarding the "academic discussion" I also agree. In my professional
> career where I designed several RF PA's, only 2 times the output
> impedance of the amplifier was of importance. In one of these cases I
> couldn't meet the specs and had to insert attenuation (some waste of
> powerï¿½).
>
> <snip>
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

> Remove abc first before setting free the pigeon.
> --------------
>
> J. C. Mc Laughlin
> Michigan U.S.A.
> Home: J...@Power-Net.Net

Hello,

Regarding the defined output impedance.

The first time was during my thesis (third harmonic peaking PA). The stability margin was not very large (expected), and it could be improved by keeping the impedance seen from the base within certain limits. My teacher said, be careful, you only have two devices (BLW76). I tried to make an exciter (based on 2SC1307 BJT) with defined output impedance, but without success. So in the end I increased the output power of the exciter and inserted a 3 dB attenuator, not elegant, but it did the job.

The second time was for H-field generation where wider bandwidth was achieved by adding a second resonator. When driving from a 50 Ohms source, it had a nice Chebyshev type pass band. Because of the ripple, it shows reflection in the pass band (this happens with Chebyshev response). However when driving from a PA (that was flat within the pass band when loaded with 50 Ohms), everything went wrong.

I redesigned the filter/coil combination, designed a switching PA (half bridge in class DE operation) and skipped the 50 Ohms (I designed around 8 Ohms). The PA drives the filter directly in such away that most of the time the PA sees a nice (mismatched) load (that is inductive for harmonics). This resulted in the desired pass band with significantly increased efficiency. The strength of the H-field is controlled by varying the supply voltage (PWM circuit).

Leaving out the 50 Ohms in between, saved several capacitors and inductors.

With kind regards,

Wim
PA3DJS
www.tetech.nl

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

1001. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-07 01:20:54 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <ZuydnXQGa4PrA1nQnZ2dnUVZ_uWdnZ2d@bright.net>
Source record: 5052

Dear Walt: I am giving a lecture on firearm law on Saturday and so can not attend. Sorry not to see you and your bride.
Warm regards, Mac N8TT

"walt" wrote in message news:27f83cac-2baa-462c-aa4c-20a7d054af97@f2g2000yqf.googlegroups.com...

Hey Mac, are you planning on attending the Chapter 10 QCWA meeting in Cadillac Saturday? I'm planning on attending, so hope to see you there!!!

Walt, W2DU

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

1002. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1304748300@panix.com>
Source record: 5053
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

1003. Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-07 22:15:33 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iq4k24$m9q$1@dont-email.me>
Source record: 5055

Hi, All.

Brand new to the newsgroup, here, and even though I did the old "Find"
routine, I couldn't find what I need.

Does anyone know where I can get instructions (preferably cookbook, but if
they come with formulas, I can deal with that, too) for building a 2m SSB
horizontal loop? I live in an apartment, which is pretty much a Faraday
cage, but I get out pretty well from my balcony, at least to the east(ish)
of the building. I have a discone out there right now, clamped to the floor
stand of an old oscillating fan that it used to be attached to. :-) I have
a similar portion of a floor lamp that I want to mount the loop onto. I
need something that will cover at least the 180° that my discone can radiate
in, as well as it does. Since 2m SSB is typically horizontal, the discone
doesn't do too well. Any help will be greatly appreciated.

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1004. Re: AIM4170 antenna analyzer -- updated presentation

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-07 23:01:29 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <U5udnZYJubjUUljQnZ2dnUVZ_u2dnZ2d@bright.net>
Source record: 5054
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

A further note about the 4170 series:
1. A unit now exists that extends the upper range well into UHF.
2. In the last few days, a free software revision transforms Z vs. frequency into time vs. magnitude of Z. In other words, it displays as a TDR would.

73, Mac N8TT

"Ian Wade G3NRW" <g3nrw@yahoo.co.uk> wrote in message news:GKu+ArDOYUuMFw7I@ntlworld.com...
> If you're interested in the AIM4170 antenna analyzer, you might find my
> updated presentation useful:
>
> http://homepage.ntlworld.com/wadei/aim4170.htm
>
> I have no commercial interest in the analyzer -- I am just a very
> satisfied user.
>
> --
> 73
> Ian, G3NRW

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

1005. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 00:58:30 UTC
From: nm5k@wt.net
Message-ID: <3a19ea84-0424-4d5c-b21c-958224086da9@glegroupsg2000goo.googlegroups.com>
Source record: 5056

http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggle=1&cop=mss&ei=UTF8&p=2%20meter%20halo

Myself I'd probably stick a small 3 el yagi on that
lamp mast if you had room..
Good bit more punch for SSB, and being things are
reciprocal, it will improve reception. If you squeeze
an extra 6 db from the antenna system, that's like
taking 50 watts and turning it to 200.
Best deal on an "amp" you will find.. :)
I'm not sure the gain using a halo, but I suspect
it's probably pretty close to a dipole. Maybe a tad
more, but it's not going to be a drastic difference.
A loop has some gain broadside vs a dipole, but I'm
not sure what you get running one on it's side.

1006. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 02:51:30 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iq50fq$ap2$1@dont-email.me>
Source record: 5057

On 5/7/2011 7:58 PM, nm5k@wt.net wrote:
> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggle=1&cop=mss&ei=UTF8&p=2%20meter%20halo
>
> Myself I'd probably stick a small 3 el yagi on that
> lamp mast if you had room..
> Good bit more punch for SSB, and being things are
> reciprocal, it will improve reception. If you squeeze
> an extra 6 db from the antenna system, that's like
> taking 50 watts and turning it to 200.
> Best deal on an "amp" you will find.. :)
> I'm not sure the gain using a halo, but I suspect
> it's probably pretty close to a dipole. Maybe a tad
> more, but it's not going to be a drastic difference.
> A loop has some gain broadside vs a dipole, but I'm
> not sure what you get running one on it's side.
>

Not very good. Most of the RF goes up. It is particularly bad along the axis of the driven wire (assumes wire driven in the center). Not quite as bad normal to that axis. Might be improvable by feeding the corner.

I think a simple vertical would do better.

Cheers,
John

1007. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 03:08:27 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iq51fk$ea9$1@dont-email.me>
Source record: 5058

On 5/7/2011 7:58 PM, nm5k@wt.net wrote:
> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggle=1&cop=mss&ei=UTF8&p=2%20meter%20halo
>
> Myself I'd probably stick a small 3 el yagi on that
> lamp mast if you had room..
> Good bit more punch for SSB, and being things are
> reciprocal, it will improve reception. If you squeeze
> an extra 6 db from the antenna system, that's like
> taking 50 watts and turning it to 200.
> Best deal on an "amp" you will find.. :)
> I'm not sure the gain using a halo, but I suspect
> it's probably pretty close to a dipole. Maybe a tad
> more, but it's not going to be a drastic difference.
> A loop has some gain broadside vs a dipole, but I'm
> not sure what you get running one on it's side.
>

I forgot that the OP wanted horizontal polarization. Well, if it were me, I'd make the loop vertical and feed the bottom center. That will produce a horizontally polarized signal much better than the horizontal loop and with about the same directivity.

John

1008. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 09:09:43 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <iq5mkk$2rs$2@speranza.aioe.org>
Source record: 5059

On 08/05/2011 04:08, John KD5YI wrote:
> On 5/7/2011 7:58 PM, nm5k@wt.net wrote:
>> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggle=1&cop=mss&ei=UTF8&p=2%20meter%20halo
>>
>>
>> Myself I'd probably stick a small 3 el yagi on that
>> lamp mast if you had room..
>> Good bit more punch for SSB, and being things are
>> reciprocal, it will improve reception. If you squeeze
>> an extra 6 db from the antenna system, that's like
>> taking 50 watts and turning it to 200.
>> Best deal on an "amp" you will find.. :)
>> I'm not sure the gain using a halo, but I suspect
>> it's probably pretty close to a dipole. Maybe a tad
>> more, but it's not going to be a drastic difference.
>> A loop has some gain broadside vs a dipole, but I'm
>> not sure what you get running one on it's side.
>>
>
> I forgot that the OP wanted horizontal polarization. Well, if it were
> me, I'd make the loop vertical and feed the bottom center. That will
> produce a horizontally polarized signal much better than the horizontal
> loop and with about the same directivity.
>
> John

A 'Halo' is the usual answer, or if more space is available crossed dipoles.

Jeff

1009. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 11:16:49 UTC
From: Edward Feustel <efeustel@hughes.net>
Message-ID: <ugucs69166q4cdlhh04t840a0aqvudq5s3@4ax.com>
Source record: 5060

On Sat, 7 May 2011 18:15:33 -0400, "Tom Rutherford"
<tom@nospam.invalid> wrote:

>Hi, All.
>
>Brand new to the newsgroup, here, and even though I did the old "Find"
>routine, I couldn't find what I need.
>
>Does anyone know where I can get instructions (preferably cookbook, but if
>they come with formulas, I can deal with that, too) for building a 2m SSB
>horizontal loop? I live in an apartment, which is pretty much a Faraday
>cage, but I get out pretty well from my balcony, at least to the east(ish)
>of the building. I have a discone out there right now, clamped to the floor
>stand of an old oscillating fan that it used to be attached to. :-) I have
>a similar portion of a floor lamp that I want to mount the loop onto. I
>need something that will cover at least the 180ï¿½ that my discone can radiate
>in, as well as it does. Since 2m SSB is typically horizontal, the discone
>doesn't do too well. Any help will be greatly appreciated.

There is an antenna that Cushcraft used to make called a big wheel.
It had three full wave loops attached in parallel at the center.
I have 4 stacked big wheels which suppress vertical emission and
emphasize horizontal transmission. I have used this on 2M sideband
and FM. If you can get the instructions for a single big wheel from an
old ARRL antenna book, then I can give you some hints on phasing.
I expect that you will only be able to stack 2 on your balcony.
73,
Ed, N5EI

1010. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 11:24:19 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7a27bcfb-c98e-4856-bd2a-1d66aeeae5cc@35g2000yqy.googlegroups.com>
Source record: 5061

On 7 mayo, 00:24, walt <w...@w2du.com> wrote:
> On May 6, 5:50 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > On 6 mayo, 22:18, walt <w...@w2du.com> wrote:
>
> > > On May 6, 12:43 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > > On 6 mayo, 17:20, walt <w...@w2du.com> wrote:
>
> > > > > On May 6, 6:30 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > > > > On 6 mayo, 03:19, walt <w...@w2du.com> wrote:
>
> > > > > > > On May 5, 5:26 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > > > > > > On 5 mayo, 19:23, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > > > > > > > > John KD5YI wrote:
> > > > > > > > > > On 5/4/2011 7:54 PM, Jim Lux wrote:
> > > > > > > > > >> John KD5YI wrote:
>
> > > > > > > > > >>> Acceptable is what the manufacturer recommends for his gear. What
does
> > > > > > > > > >>> this have to do with the device's output impedance?
>
> > > > > > > > > >> Absolutely nothing.. which is the point.
>
> > > > > > > > > > Are we arguing the same point?
>
> > > > > > > > > >> but the summary is,
>
> > > > > > > > > > That it is a bag of worms? I'm waiting with baited breath...
>
> > > > > > > > > Exactly..
>
> > > > > > > > > In fact, as interesting as it would be to measure the output impedance
> > > > > > > > > of my radio, I started to think about what it would buy me, and came to
> > > > > > > > > the conclusion, almost nothing (other than satisfying curiosity).
>
> > > > > > > > > It *might* be interesting to look at (and write an article for QST/QEX
> > > > > > > > > or something) "optimizing radiated power". Answering the question: do
> > > > > > > > > you really want a 50 ohm match on your antenna analyzer, or do you want
> > > > > > > > > maximum net power at the antenna feedpoint, and what that might mean for
> > > > > > > > > typical 100W solid state rigs, antennas, etc.

>
> > > > > > > > > (as a practical matter, this is what automatic antenna tuners actually
> > > > > > > > > adjust for: either minimum reflected power, or maximum fwd-ref)
>
> > > > > > > > > but it's possible that deliberately running a mismatch (as shown on your
> > > > > > > > > rig's SWR meter) might actually result in more radiated power. e.g. if
> > > > > > > > > at 1:1 you have 100W fwd and 0 rev, but at 2:1 you have 150W fwd and 15W
> > > > > > > > > reflected, so you're actually net 135W vs 100W; assuming your rig
> > > > > > > > > doesn't otherwise have any problems.
>
> > > > > > > > Hello Jim,
>
> > > > > > > > I agree with the PA load mismatch issue. It is possible to get (some)
> > > > > > > > more net power by applying mismatch to a PA stage (from experience).
> > > > > > > > But frequently it comes with too much increase in input power (so very
> > > > > > > > hot heatsink).
>
> > > > > > > > In case of high efficiency designs, the active devices may communicate
> > > > > > > > to you by means of smoke or ejection of (hot) particles.
>
> > > > > > > > Wim
> > > > > > > > PA3DJSwww.tetech.nl
> > > > > > > > In case of PM, tell the pigeon that abc is not in the address.
>
> > > > > > > Hi Wimpie and KD5YI,
>
> > > > > > > Will you please explain how it is possible to get more power delivered
> > > > > > > by applying a mismatch to the output of a PA?
>
> > > > > > > And for KD5YI specifically, I believe you have presented some
> > > > > > > inaccurate math calculations. You begin with delivering 100w into a
> > > > > > > matched load. Then you say you mismatch to 2:1 and get 135w forward
> > > > > > > and 15w reflected, leaving 120w delivered. You must be kidding!!
>
> > > > > > No he is not kidding. I observed the same. At that time I was lucky to
> > > > > > have full access to HP, Advantest and Rohde & Schwarz equipment to
> > > > > > double-check everything (I first blamed my own gear).   You should
> > > > > > leave the idea that all PA's have 50 Ohms output impedance, then it is
> > > > > > easy to explain yourself.
>
> > > > > > A certain load that has mismatch referenced to 50 Ohms may have a nice
> > > > > > match to a system with non-50 Ohms output impedance.
>
> > > > > > First, with a 2:1 mismatch and 100w delivered by the PA, the reflected
> > > > > > power is 11.111w, which when added to 100w from the source, the
> > > > > > forward power is 111.11 watts. When the reflected power that returns
> > > > > > to the load is subtracted from the forward power, the result is 100w.
> > > > > > You've heard the expression 'there is no free lunch'?
>
> > > > > > So please explain to me, if you can, how you can deliver 120w when the

> > > > > > > source is 100w.
>
> > > > > > > Walt
>
> > > > > > The extreme cases where you can get significantly more net output
> > > > > > power by applying mismatch, are PA's with high efficiency (class-E, -
> > > > > > D, -DE, etc). I am currently designing a balanced class-E 500W
> > > > > > stage. It can deliver 1 kW, but within very short time the mosfet's
> > > > > > will explode (if the supervisory circuit doesn't act).
>
> > > > > > Wim
> > > > > > PA3DJSwww.tetech.nl
>
> > > > > Wim, are you saying that by using Class E amps you are able to violate
> > > > > the Laws of Physics pertaining to the Conjugate Matching Theorem and
> > > > > the Maximum Power Delivery Theorem? I cannot agree.
>
> > > > Walt, Maybe you should familiarize yourself with class E (and other
> > > > high efficient topologies). Set up a simulation (or measurement) and
> > > > try to apply your "conjugated match" thing. You will find out that you
> > > > can't make a class E PA that operates under conjugated match, unless
> > > > you are going to play with the power supply's internal resistance (so
> > > > the system becomes power supply limited). My current design outputs
> > > > 500W into 4.5 Ohms, however the output impedance (load pulling) is < 1
> > > > Ohm.
>
> > > > The reason for non-conjugated matched operation is that in class-E the
> > > > device is in voltage saturation for about 50% of the time. During that
> > > > time the device has no gain, so a device used in class-E has less gain
> > > > then the same device used in a non-saturated application. In other
> > > > words: tuning is designed for highest efficiency, not highest output
> > > > power.
>
> > > > > A load doesn't care what the source is. If the load impedance is the
> > > > > complex conjugate of the source, all available power will be delivered
> > > > > to the load.
>
> > > > Quote from text above: "If the load impedance is the complex conjugate
> > > > of the source.....". This If-statement has a "false" result for many
> > > > PAs, try to broaden your view.
>
> > > > > Then, if the load impedance is either increased or
> > > > > decreased, the power delivered will decrease. Are you now saying that
> > > > > the concept I just stated above is no longer true? If you are, please
> > > > > explain in detail why this is so. How does 'high efficiency' overcome
> > > > > the requirement for impedance matching in the delivery of power?
>
> > > > > And are you agreeing with an earlier poster that with a 100w source
> > > > > and a mismatch of 2:1 the forward power will be 135w and 15w
> > > > > reflected, the power delivered to the load will be 130w? If so, will

> > > > > you please explain in detail how this can occur?
>
> > > > Yes I agree with him, see my reaction to that statement
>
> > > > My class-E PA design that I am doing now is designed for a 4.5 Ohms
> > > > nominal load. If I change that load to 2.5 Ohms (VSWR=1.8), output
> > > > increases to > 700W, but it will be destroyed due too non-favourite
> > > > combination of Vds and Id.
>
> > > > > Walt
>
> > > > With kind regards,
>
> > > > Wim
> > > > PA3DJSwww.tetech.nl
>
> > > Well, Wim, I still don't see how a 2:1 mismatch can achieve 135w
> > > forward and 15w reflected with a 100w source. How can a 2:1 mismatch
> > > achieve 130w forward power, when that mismatch can only reflect 0.111
> > > x 100w? Also, how can that mismatch achieve 15w of reflected power
> > > when that mismatch can only reflect 0.111 x 100w? And how can 11.111
> > > watts of forward power add to 100w to achieve 130w? I don't see how
> > > the power reflected at a mismatched load can be affected by the nature
> > > of the source.
>
> > > But I do understand how with a 4.5-ohm load can deliver 500w and a 2.5-
> > > ohm load can deliver 700w. I now understand what you mean by a
> > > mismatch can increase the power delivery. (Actually, a change in
> > > mismatch)
>
> > > But Wim, you pulled a fast one one us!!! Until now you didn't tell us
> > > that the source resistance of the source was 1 ohm!!!
>
> > > You also didn't tell us what the power would be if the load was 1 ohm
> > > (thus matching the load to the source) if the power supply was
> > > sufficiently large so the power delivery would not be limited by the
> > > power supply. So in reality, you really DON'T get an increase in power
> > > delivery by mismatching, but actually a decrease. What you're really
> > > doing is obtaining an increase in power delivery by decreasing the
> > > amount of mismatch from 4.5:1 to 2.5:1.
>
> > > So now I understand that you haven't violated any laws of physics, but
> > > IMHO, you have been misleading when you say you obtain a increase in
> > > power by mismatching, because that statement isn't really true, is
> > > it?
>
> > > take care,
>
> > > Walt
>

> > Hello Walt,
>
> > Off course I agree with you that you can never have more power then
> > the conjugated matched power, but many PAs don't operate in this
> > regime (as my very extreme class-E case). It was the reason for
> > mentioning:
>
> > "A certain load that has mismatch referenced to 50 Ohms may have a
> > nice
> > match to a system with non-50 Ohms output impedance."
>
> > The problem is in whether you define mismatch based on the ohmic value
> > printed on the back of the PA, or on the actual output impedance of
> > the PA (that you mostly don't know in case of many solid state PA's).
>
> > As the actual output impedance of the PA may not be 50 Ohms (for
> > example 100 Ohms), a 50 Ohms load (as mentioned on the back of the PA)
> > will provide the stated power (for example 100W). By applying 100
> > Ohms (that is VSWR = 2 for a 50 Ohms reference), the net power will
> > increase to 112 W.   Actually it wasn't me to experience this mismatch
> > isue first, but my father during the time that CB was very popular
> > overhere.
>
> > The above example assumes that the output impedance of the PA is
> > independent of load. Of course this is only true when the actual
> > voltage across the active device and current through it doesn't
> > saturate the active device too much.
>
> > I think the saturation issue is one of the advantages of a linear PA
> > with accessible R an X tuning. You just tune for maximum output given
> > a certain load and drive (you may use plate current as a guide also).
> > As long as your SSB signal's PEP stays below that output power, your
> > active device will not go into voltage saturation and IMD will likely
> > be acceptable.
>
> > In case of a wide band push-pull PA, VSWR = 2 (with inconvenient
> > phase) may provide a load where the active devices (mosfet or BJT),
> > will go into voltage saturation at a net output power below the rated
> > power of the PA. For constant envelope modulation this isn't problem,
> > but for SSB/AM it isn't good.
>
> > With kind regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
>
> Thanks for the reply, Wim, but you seem to be evading my questions and
> concerns by what appears to be going off on tangents unrelated to my
> questions.
>

> Perhaps I need to refresh Electronics 101, because I simply can't
> understand the example you provided.
>
> You have a 100-ohm source terminated with a 50-ohm load that provides
> 100w. But you say with the VSWR = 2 the net power will increase to
> 112w. How does this happen?
>
> Wim, you are making statements that seem to disagree with known
> principles, yet you give no explanation of how these statements can be
> justified in relation to the known principles.
>
> And please tell me, Wim, what RF amps do you know of that have the
> source impedance indicated on the back? And you refer to solid-state
> amps, when you know my discussion (and experience) is with tube amps
> with pi-network outputs. I am totally ignorant on the operation of
> solid-state amps.
>
> I would like to be learning something from my discussions with you,
> but I'm sorry, Wim, you're making me feel more stupid the more we
> continue.
>
> Walt

Hello Walt,

The source delivers the stated power in a 50 Ohms load (so the back of the PA mentions 100W into 50 ohms, nothing more). It is the same as for my class E thing, it mentions 500W into 4.5 Ohms load. It doesn't state that the output impedance is < 1 Ohms. So if one provides mismatch (referenced to 4.5 Ohms), the PA may give more net output.

I hope this makes all clear.

Wim

1011. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 11:36:18 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <8c0eef27-a60f-43ee-847c-5b806a90a658@v10g2000yqn.googlegroups.com>
Source record: 5062

On 7 mayo, 01:51, Cecil Moore <w5...@hotmail.com> wrote:
> On May 6, 5:24 pm, walt <w...@w2du.com> wrote:
>
> > > You have a 100-ohm source terminated with a 50-ohm load that provides
> > > 100w. But you say with the VSWR = 2 the net power will increase to
> > > 112w. How does this happen?
>
> Walt, here is probably what Wim means by that.
>
> Source------1/2WL 50 ohm lossless------RLoad
>
> Vsource = 212v, Rsource=100 ohms
>
> If Rload = 50 ohms, PLoad = 100w
>
> If Rload = 100 ohms, PLoad=112.5w
>
> Wim must be assuming a 50 ohm SWR in both cases.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello,

I assumed a black box with a voltage source in it with EMF = 213Vrms
and a 100 Ohms resistor in series.

Above the UHF socket it mentions: "100W into 50 Ohms".

Please calculate for yourself the net power delivered into a 50 Ohms
load, and into a 100 Ohms load (VSWR=2, referenced to 50 Ohms). As 50
Ohms is mentioned above the UHF socket, VSWR is referenced to 50
Ohms.

Wim
PA3DJS
www.tetech.nl

1012. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 17:22:46 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iq729lafq1@dont-email.me>
Source record: 5063

<nm5k@wt.net> wrote in message
news:3a19ea84-0424-4d5c-b21c-958224086da9@glegroupsg2000goo.googlegroups.com...
> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggle=1
&cop=mss&ei=UTF8&p=2%20meter%20halo
>
> Myself I'd probably stick a small 3 el yagi on that
> lamp mast if you had room..
> Good bit more punch for SSB, and being things are
> reciprocal, it will improve reception. If you squeeze
> an extra 6 db from the antenna system, that's like
> taking 50 watts and turning it to 200.
> Best deal on an "amp" you will find.. :)
> I'm not sure the gain using a halo, but I suspect
> it's probably pretty close to a dipole. Maybe a tad
> more, but it's not going to be a drastic difference.
> A loop has some gain broadside vs a dipole, but I'm
> not sure what you get running one on it's side.

Thanks much. I'll have a look at that link and see what's what. The Yagi
would be nice, but running out on the balcony and moving it around all the
time isn't practical. That's why I wanted something fairly omnidirectional,
as much of "omni" as I can get, anyway. Since I remember what my
communications instructor told us about loops (they radiate equally poorly
in all directions <g>), I figured this would be the most practical solution
for what I want to do.

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1013. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 17:27:03 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iq729mafq2@dont-email.me>
Source record: 5064

"Edward Feustel" <efeustel@hughes.net> wrote in message
news:ugucs69166q4cdlhh04t840a0aqvudq5s3@4ax.com...
> On Sat, 7 May 2011 18:15:33 -0400, "Tom Rutherford"
> <tom@nospam.invalid> wrote:
>
>>Hi, All.
>>
>>Brand new to the newsgroup, here, and even though I did the old "Find"
>>routine, I couldn't find what I need.
>>
>>Does anyone know where I can get instructions (preferably cookbook, but if
>>they come with formulas, I can deal with that, too) for building a 2m SSB
>>horizontal loop? I live in an apartment, which is pretty much a Faraday
>>cage, but I get out pretty well from my balcony, at least to the east(ish)
>>of the building. I have a discone out there right now, clamped to the
>>floor
>>stand of an old oscillating fan that it used to be attached to. :-) I
>>have
>>a similar portion of a floor lamp that I want to mount the loop onto. I
>>need something that will cover at least the 180° that my discone can
>>radiate
>>in, as well as it does. Since 2m SSB is typically horizontal, the discone
>>doesn't do too well. Any help will be greatly appreciated.
>
> There is an antenna that Cushcraft used to make called a big wheel.
> It had three full wave loops attached in parallel at the center.
> I have 4 stacked big wheels which suppress vertical emission and
> emphasize horizontal transmission. I have used this on 2M sideband
> and FM. If you can get the instructions for a single big wheel from an
> old ARRL antenna book, then I can give you some hints on phasing.
> I expect that you will only be able to stack 2 on your balcony.
> 73,
> Ed, N5EI

Thanks, Ed. I'll give it a look-see.

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1014. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 22:08:56 UTC
From: nm5k@wt.net
Message-ID: <9d937043-6175-4e25-b89b-8dbcfd643b6f@glegroupsg2000goo.googlegroups.com>
Source record: 5065

On Sunday, May 8, 2011 12:22:46 PM UTC-5, Tom Rutherford wrote:

> The Yagi
> would be nice, but running out on the balcony and moving it around all the
> time isn't practical. That's why I wanted something fairly omnidirectional,
> as much of "omni" as I can get, anyway. Since I remember what my
> communications instructor told us about loops (they radiate equally poorly
> in all directions <g>), I figured this would be the most practical solution
> for what I want to do.

Another possible idea could be the turnstile.
That is horizontal, pretty omni, and pretty simple
to build. Just a set of crossed dipoles fed 90 degrees
out of phase. I think you would have less gain vs
the broadside of a dipole, but you wouldn't have the
nulls off the ends.

1015. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-08 22:37:38 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <e9d3edb9-aa5f-4155-98d7-1e01307b2837@w10g2000yqa.googlegroups.com>
Source record: 5066

On 7 mayo, 03:16, "J. C. Mc Laughlin" <j...@power-net.net> wrote:
> Dear Wimpie: Many thanks. I am always on the look-out for applied
> electronic problems for a colleague who is particularly skilled at crafting
> practice problems for the professional engineering exam (chartered engineer
> in Europe).
>
> Your comments about filter response reminds me of the (analog) FM receivers
> that had wonderful suppression of the next channel over, but horrible
> performance in the presence of noise from ignition - while other receivers
> had great performance in both respects. As you know, it had to do with
> phase response. Chebyshev is not always desirable.
>
> Warm regards,   Mac   N8TT
>
> "Wimpie" wrote in message
>
> news:ca14f105-ac19-45b0-a5c3-28967b1ce95f@v10g2000yqn.googlegroups.com...
>
> On 5 mayo, 17:06, "J. C. Mc Laughlin" <j...@power-net.net> wrote:
>
>
>
> > Dear Wimpie: The content of the paragraph below may well rise above the
> > noise of this thread.
> > I expect to learn something of value from your comments about why twice
> > the
> > (apparent) output Z of an amplifier was of importance and what you did to
> > have the amplifiers conform.
>
> > 73,   Mac   N8TT
> > ------------------"Wimpie" wrote in message
>
> >news:d68fc390-da1b-45c7-8f2a-eda684959d03@u16g2000yqj.googlegroups.com...
>
> > Hello Dave and John,
>
> > <snip>
>
> > Regarding the "academic discussion" I also agree. In my professional
> > career where I designed several RF PA's, only 2 times the output
> > impedance of the amplifier was of importance. In one of these cases I
> > couldn't meet the specs and had to insert attenuation (some waste of
> > power…).
>

> > <snip>
>
> > With kind regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
> > Remove abc first before setting free the pigeon.
> > --------------
>
> > J. C. Mc Laughlin
> > Michigan U.S.A.
> > Home: J...@Power-Net.Net
>
> Hello,
>
> Regarding the defined output impedance.
>
> The first time was during my thesis (third harmonic peaking PA). The
> stability margin was not very large (expected), and it could be
> improved by keeping the impedance seen from the base within certain
> limits. My teacher said, be careful, you only have two devices
> (BLW76). I tried to make an exciter (based on 2SC1307 BJT) with
> defined output impedance, but without success. So in the end I
> increased the output power of the exciter and inserted a 3 dB
> attenuator, not elegant, but it did the job.
>
> The second time was for H-field generation where wider bandwidth was
> achieved by adding a second resonator. When driving from a 50 Ohms
> source, it had a nice Chebyshev type pass band. Because of the ripple,
> it shows reflection in the pass band (this happens with Chebyshev
> response). However when driving from a PA (that was flat within the
> pass band when loaded with 50 Ohms), everything went wrong.
>
> I redesigned the filter/coil combination, designed a switching PA
> (half bridge in class DE operation) and skipped the 50 Ohms (I
> designed around 8 Ohms). The PA drives the filter directly in such
> away that most of the time the PA sees a nice (mismatched) load (that
> is inductive for harmonics). This resulted in the desired pass band
> with significantly increased efficiency. The strength of the H-field
> is controlled by varying the supply voltage (PWM circuit).
>
> Leaving out the 50 Ohms in between, saved several capacitors and
> inductors.
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl
>
> J. C. Mc Laughlin

> Michigan U.S.A.
> Home: J...@Power-Net.Net

off-topic

Hello Mac,

The Chebyshev is not may favorite filter response, but it gave the required bandwidth increase (from my head more then factor 2).

When using a zero ripple response I had to use more resonating circuits and the client didn't like that. Now there is one straightforward adjustment only (that can be done in the field when required).

With regards to the in-band behavior, I had an almost similar problem in an FM narrow band application that another department couldn't get within specs. They used a very steep Chebyshev filter, but they couldn't meet the internal SINAD spec…. Another filter with less pass band ripple solved the problem.

Two years ago similar problem in an optical receiver. The client was happy that it could be solved by optimizing the digital detection SW.

With kind regards,

Wim
PA3DJS
www.tetech.nl

1016. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 00:51:41 UTC
From: tom <news4792@taring.org>
Message-ID: <4dc73a9d$0$74946$8046368a@newsreader.iphouse.net>
Source record: 5067

On 5/7/2011 9:51 PM, John KD5YI wrote:
>
> Not very good. Most of the RF goes up. It is particularly bad along the
> axis of the driven wire (assumes wire driven in the center). Not quite
> as bad normal to that axis. Might be improvable by feeding the corner.
>
> I think a simple vertical would do better.
>
> Cheers,
> John
>

Not for SSB it wouldn't. 20dB or so isolation V to H. Useless unless
within less than normal FM range.

On the flip side I've done well over 100 miles car to car with single
halos on each end with roughly 80 watts. And up to 200 with 2 stacked
halos (3 foot stacking, not much really) to a single 3 wavelength yagi
on the other end. Not a one time thing, I used to drive NNY at about
1000 miles per week doing service during the early 80's.

There are better things than the halo. The omni-angles are quite a bit
better, especially on the pattern and are simple and rugged. Less than
1 dB gain change over 360 degrees toward the horizon. A Motorola design
(that I don't remember them using) that got re-purposed for amateur.

And then there's the Big Wheel and a modern twist on it that is even
better and smaller.

tom
K0TAR

1017. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 02:14:25 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <X5lxp.64887$0s5.27562@newsfe17.iad>
Source record: 5068

Consider the fact that as it is on a balcony, I assume there is a building
with
a balcony on the side, then you would do with a simple dipole as any
signal sent into the building is only wasted. I am not sure but it would
probably have a good off balcony signal pattern too -- better than most
other antenna arrangements I can think of/

It's cheap and quick and wouldn't take much effort to try.

Irv VE6BP

"Tom Rutherford" <tom@nospam.invalid> wrote in message
news:iq729mafq2@dont-email.me...
>
> "Edward Feustel" <efeustel@hughes.net> wrote in message
> news:ugucs69166q4cdlhh04t840a0aqvudq5s3@4ax.com...
>> On Sat, 7 May 2011 18:15:33 -0400, "Tom Rutherford"
>> <tom@nospam.invalid> wrote:
>>
>>>Hi, All.
>>>
>>>Brand new to the newsgroup, here, and even though I did the old "Find"
>>>routine, I couldn't find what I need.
>>>
>>>Does anyone know where I can get instructions (preferably cookbook, but
>>>if
>>>they come with formulas, I can deal with that, too) for building a 2m SSB
>>>horizontal loop? I live in an apartment, which is pretty much a Faraday
>>>cage, but I get out pretty well from my balcony, at least to the
>>>east(ish)
>>>of the building. I have a discone out there right now, clamped to the
>>>floor
>>>stand of an old oscillating fan that it used to be attached to. :-) I
>>>have
>>>a similar portion of a floor lamp that I want to mount the loop onto. I
>>>need something that will cover at least the 180° that my discone can
>>>radiate
>>>in, as well as it does. Since 2m SSB is typically horizontal, the
>>>discone
>>>doesn't do too well. Any help will be greatly appreciated.
>>
>> There is an antenna that Cushcraft used to make called a big wheel.
>> It had three full wave loops attached in parallel at the center.
>> I have 4 stacked big wheels which suppress vertical emission and

>> emphasize horizontal transmission. I have used this on 2M sideband
>> and FM. If you can get the instructions for a single big wheel from an
>> old ARRL antenna book, then I can give you some hints on phasing.
>> I expect that you will only be able to stack 2 on your balcony.
>> 73,
>> Ed, N5EI
>
> Thanks, Ed. I'll give it a look-see.
>
> --
> -- 73 DE Tom Rutherford, N8EUJ, Burton, MI
> "She said it was either her or the ham radio. Over."
>
>
>
>

1018. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 16:47:52 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iq95pvjsk1@news.jpl.nasa.gov>
Source record: 5069

On 5/8/2011 10:22 AM, Tom Rutherford wrote:
> <nm5k@wt.net> wrote in message
> news:3a19ea84-0424-4d5c-b21c-958224086da9@glegroupsg2000goo.googlegroups.com...
>> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggle=1&cop=mss&ei=UTF8&p=2%20meter%20halo
>>
>> Myself I'd probably stick a small 3 el yagi on that
>> lamp mast if you had room..
>> Good bit more punch for SSB, and being things are
>> reciprocal, it will improve reception. If you squeeze
>> an extra 6 db from the antenna system, that's like
>> taking 50 watts and turning it to 200.
>> Best deal on an "amp" you will find.. :)
>> I'm not sure the gain using a halo, but I suspect
>> it's probably pretty close to a dipole. Maybe a tad
>> more, but it's not going to be a drastic difference.
>> A loop has some gain broadside vs a dipole, but I'm
>> not sure what you get running one on it's side.
>
> Thanks much. I'll have a look at that link and see what's what. The Yagi
> would be nice, but running out on the balcony and moving it around all the
> time isn't practical. That's why I wanted something fairly omnidirectional,
> as much of "omni" as I can get, anyway. Since I remember what my
> communications instructor told us about loops (they radiate equally poorly
> in all directions<g>), I figured this would be the most practical solution
> for what I want to do.
>

A horizontal dipole in front of a screen or single reflector would have
a "pattern" that is 100+ degrees wide.

Stack a couple vertically, say a meter apart, and you squeeze the
vertical beam width significantly, which is probably what you want.

What you *might* want to do is look for a low gain TV antenna for the
upper VHF bands (e.g. Channel 7-13): one of those two bay things with a
bowtie in front of a screen.

1019. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 17:04:14 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iq96om$k52$1@news.jpl.nasa.gov>
Source record: 5070

=
> Well, Wim, I still don't see how a 2:1 mismatch can achieve 135w
> forward and 15w reflected with a 100w source. How can a 2:1 mismatch
> achieve 130w forward power, when that mismatch can only reflect 0.111
> x 100w? Also, how can that mismatch achieve 15w of reflected power
> when that mismatch can only reflect 0.111 x 100w? And how can 11.111
> watts of forward power add to 100w to achieve 130w? I don't see how
> the power reflected at a mismatched load can be affected by the nature
> of the source.

Let's take an example of a power amplifier, followed by an isolator, and
then your load.

> But Wim, you pulled a fast one one us!!! Until now you didn't tell us
> that the source resistance of the source was 1 ohm!!!

This whole discussion started with the observation that most solid state
amateur amplifiers probably do NOT have an output impedance of 50 ohms,
and that, in fact, the output impedance isn't particularly well defined
(i.e. it changes over frequency and power level).

And, given that, whether you achieve a "match" may not be the best
overall system solution (in terms of AC power in to radiated EM wave)

The problem really is that a simple small signal linear circuit theory
approach (which is what Thevenin equivalents and maximum power transfer
theorem are all about) breaks down, especially when you consider that
actual amplifiers have operating area limits that are some combination
of current, power, and voltage, and that amplifiers and power supplies
have efficiencies that vary a lot depending on the operating point.

Maximum Power transfer/conjugate matching applies only at the single
reference plane, and is convenient for analysis, but doesn't tell much
of the story when it comes to overall system performance.

A related issue is noise figure performance, where a well-matched system
(which would transfer maximum power from the antenna to the LNA)
sometimes isn't what you want, because it's optimally transferring the
noise power from the source resistance.

1020. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 17:57:29 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iq9hbe$t4f$1@dont-email.me>
Source record: 5073

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:X5Ixp.64887$0s5.27562@newsfe17.iad...
> Consider the fact that as it is on a balcony, I assume there is a building
> with
> a balcony on the side, then you would do with a simple dipole as any
> signal sent into the building is only wasted. I am not sure but it would
> probably have a good off balcony signal pattern too -- better than most
> other antenna arrangements I can think of/
>
> It's cheap and quick and wouldn't take much effort to try.
>
> Irv VE6BP

I might just go that direction, Irv, depending on how things look with other
designs. Thanks!

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1021. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 17:57:29 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iqbn0m$rg0$1@dont-email.me>
Source record: 5081

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:X5Ixp.64887$0s5.27562@newsfe17.iad...
> Consider the fact that as it is on a balcony, I assume there is a building
> with
> a balcony on the side, then you would do with a simple dipole as any
> signal sent into the building is only wasted. I am not sure but it would
> probably have a good off balcony signal pattern too -- better than most
> other antenna arrangements I can think of/
>
> It's cheap and quick and wouldn't take much effort to try.
>
> Irv VE6BP

I might just go that direction, Irv, depending on how things look with other
designs. Thanks!

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1022. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 18:00:39 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iqbn0n$rg0$2@dont-email.me>
Source record: 5082

<nm5k@wt.net> wrote in message
news:9d937043-6175-4e25-b89b-8dbcfd643b6f@glegroupsg2000goo.googlegroups.com...
> On Sunday, May 8, 2011 12:22:46 PM UTC-5, Tom Rutherford wrote:
>
>> The Yagi
>> would be nice, but running out on the balcony and moving it around all
>> the
>> time isn't practical. That's why I wanted something fairly
>> omnidirectional,
>> as much of "omni" as I can get, anyway. Since I remember what my
>> communications instructor told us about loops (they radiate equally
>> poorly
>> in all directions <g>), I figured this would be the most practical
>> solution
>> for what I want to do.
>
> Another possible idea could be the turnstile.
> That is horizontal, pretty omni, and pretty simple
> to build. Just a set of crossed dipoles fed 90 degrees
> out of phase. I think you would have less gain vs
> the broadside of a dipole, but you wouldn't have the
> nulls off the ends.

That's another good idea. Thanks. Are the elements of a turnstile spaced a
quarter wavelength apart, or are they pretty much on top of each other?

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1023. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 18:33:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n9bgs6d4n4jooshofu8n7j0v57kldsp759@4ax.com>
Source record: 5071

On Mon, 09 May 2011 10:04:14 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>=
>> Well, Wim, I still don't see how a 2:1 mismatch can achieve 135w
>> forward and 15w reflected with a 100w source. How can a 2:1 mismatch
>> achieve 130w forward power, when that mismatch can only reflect 0.111
>> x 100w? Also, how can that mismatch achieve 15w of reflected power
>> when that mismatch can only reflect 0.111 x 100w? And how can 11.111
>> watts of forward power add to 100w to achieve 130w? I don't see how
>> the power reflected at a mismatched load can be affected by the nature
>> of the source.
>
>
>Let's take an example of a power amplifier, followed by an isolator, and
>then your load.

Hi Jim,

Taking that example doesn't explain the numbers in Walt's frequently
asked question (which I understand by John KD5YI's header information
was originally your assertion, not Wim's).

>This whole discussion started with the observation that most solid state
>amateur amplifiers probably do NOT have an output impedance of 50 ohms,
>and that, in fact, the output impedance isn't particularly well defined
>(i.e. it changes over frequency and power level).

The whole discussion that stops at that point is jejune. There is
SOME output impedance at SOME operating point and the rhetorical
device of saying it isn't 50 Ohms isn't very informative.

>The problem really is that a simple small signal linear circuit theory
>approach (which is what Thevenin equivalents and maximum power transfer
>theorem are all about) breaks down, especially when you consider that
>actual amplifiers have operating area limits that are some combination
>of current, power, and voltage, and that amplifiers and power supplies
>have efficiencies that vary a lot depending on the operating point.

Consistently across the board, ALL of Walt's papers and publications
have carefully defined the operational criteria to satisfy exactly
those issues and to remove them as objections from "the whole
discussion started with ... output impedance." Ignoring that
contribution, and refusing to argue those points, the critics then
re-inject these issues to condemn Walt's conclusion.

73's
Richard Clark, KB7QHC

1024. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-09 19:42:45 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <3aaa7193-b7bf-4555-a768-269b1b2fb753@w10g2000yqa.googlegroups.com>
Source record: 5072

On 7 mayo, 01:51, Cecil Moore <w5...@hotmail.com> wrote:
> On May 6, 5:24 pm, walt <w...@w2du.com> wrote:
>
> > > You have a 100-ohm source terminated with a 50-ohm load that provides
> > > 100w. But you say with the VSWR = 2 the net power will increase to
> > > 112w. How does this happen?
>
> Walt, here is probably what Wim means by that.
>
> Source------1/2WL 50 ohm lossless------RLoad
>
> Vsource = 212v, Rsource=100 ohms
>
> If Rload = 50 ohms, PLoad = 100w
>
> If Rload = 100 ohms, PLoad=112.5w
>
> Wim must be assuming a 50 ohm SWR in both cases.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

Your assumption is correct! To avoid confusion, I mentioned: "that is
VSWR = 2 for a 50 Ohms reference", but maybe it is because of English
isn't my mother tongue.

I think it is not unusual to use 50 Ohms as reference when the output
specification says: "100W into 50 Ohms".

With kind regards,

Wim
PA3DJS
www.tetech.nl

1025. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 01:13:00 UTC
From: walt <walt@w2du.com>
Message-ID: <1e77c334-b146-4309-9fbc-c2d0d7fd9467@d15g2000yqn.googlegroups.com>
Source record: 5074

On May 9, 3:42 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 7 mayo, 01:51, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
>
>
>
>
>
> > On May 6, 5:24 pm, walt <w...@w2du.com> wrote:
>
> > > You have a 100-ohm source terminated with a 50-ohm load that provides
> > > 100w. But you say with the VSWR = 2 the net power will increase to
> > > 112w. How does this happen?
>
> > Walt, here is probably what Wim means by that.
>
> > Source------1/2WL 50 ohm lossless------RLoad
>
> > Vsource = 212v, Rsource=100 ohms
>
> > If Rload = 50 ohms, PLoad = 100w
>
> > If Rload = 100 ohms, PLoad=112.5w
>
> > Wim must be assuming a 50 ohm SWR in both cases.
> > --
> > 73, Cecil, w5dxp.com
> > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> Hello Cecil,
>
> Your assumption is correct! To avoid confusion, I mentioned: "that is
> VSWR = 2 for a 50 Ohms reference", but maybe it is because of English
> isn't my mother tongue.
>
> I think it is not unusual to use 50 Ohms as reference when the output
> specification says: "100W into 50 Ohms".
>
> With kind regards,
>
> Wim

> PA3DJSwww.tetech.nl

Wim, why is it that you can't seem to answer my question concerning the amount of power reflected from a 2:1 mismatch? The following is what you said in reply, totally ignoring the details in my question:

>The problem really is that a simple small signal linear circuit theory
>approach (which is what Thevenin equivalents and maximum power transfer
>theorem are all about) breaks down, especially when you consider that
>actual amplifiers have operating area limits that are some combination
>of current, power, and voltage, and that amplifiers and power supplies
>have efficiencies that vary a lot depending on the operating point,

Your response above is totally evasive, and I can't understand why you would do this. There is a specific correlation between source power, forward power and reflected power, such that with a 100w source in a 50-ohm system, a 2:1 mismatch, when the reflected power is re-reflected the forward power is 111.11w, reflected power is 11.111w, and power absorbed in the load is 100w.

Now please explain with rigorous physics and math, how with a 100w source and a 2:1 mismatch you can justify a forward power of 130w and a reflected power of 15w. Is the fact that there is no way these values can exist is the reason you're evading answering the question? If someone who is unfamiliar with the truth in this instance came up with these absurd numbers, and who is willing to admit a mistake, I'm willing to forgive a mistake. But if you are stonewalling, is what it appears to be, then I'm not amused. And you should be ashamed for doing it.

Walt, W2DU

1026. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 10:24:56 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <61311836-22de-44fa-9dc3-d268c1594c8e@n11g2000yqf.googlegroups.com>
Source record: 5075

On May 9, 8:13 pm, walt <w...@w2du.com> wrote:
>There is a specific correlation between source power,
> forward power and reflected power, such that with a 100w source in a
> 50-ohm system, a 2:1 mismatch, when the reflected power is re-
> reflected the forward power is 111.11w, reflected power is 11.111w,
> and power absorbed in the load is 100w.

Walt -

If the load reflects 11.111... percent of the forward power, and 100%
of reflected power is re-reflected by the source, then how/why in your
example is the power absorbed by the load equal to the original
incident power of 100W?

A re-reflection for these conditions is not 100% absorbed by the load,
rather 11.111% of it is reflected back to the source. Only ~88.889%
of that first re-reflection is absorbed by the load. Ditto for all
further re-reflections of the first reflection.

Assuming no loss in the transmission line, and phase coherence at the
load for all forward power, wouldn't the load power accumulate per the
table below -- which shows the initial forward power absorbed by the
load with the first ten re-reflections of it by the source?

88.889 watts
1.23454321
0.137170096
0.015240969
0.001693424
0.000188156
2.09061E-05
2.32287E-06
2.58094E-07
2.86769E-08
3.18629E-09
- - - - - - - - - -
90.27785937 watts, total

Then the next question is what happened to the "missing" power?

RF

1027. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 11:17:42 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <jV2QOUYW7RyNFwqZ@g3ohx.demon.co.uk>
Source record: 5076

In message <iq9hbe$t4f$1@dont-email.me>, Tom Rutherford
<tom@nospam.invalid> writes
>
>"Irv Finkleman" <finkirv@shaw.ca> wrote in message
>news:X5Ixp.64887$0s5.27562@newsfe17.iad...
>> Consider the fact that as it is on a balcony, I assume there is a building
>> with
>> a balcony on the side, then you would do with a simple dipole as any
>> signal sent into the building is only wasted. I am not sure but it would
>> probably have a good off balcony signal pattern too -- better than most
>> other antenna arrangements I can think of/
>>
>> It's cheap and quick and wouldn't take much effort to try.
>>
>> Irv VE6BP
>
Quite. There's not much point in striving to achieve omnidirectional
coverage if half the RF will be coming back into the building, and
getting lost.

However, in the interests of minimising interference (to and from the
electrical devices in the building), it might be advantageous to
minimise radiation/reception in that direction by using something at
least 'somewhat' directional - maybe a 2-element yagi, or an HB9CV?
http://www.mydarc.de/dk7zb/HB9CV/Details-HB9CV.htm
<http://webcache.googleusercontent.com/search?q=cache:c2TRLwa5UtoJ:www.wr
aith.sf.ca.us/electronics/radio/+hb9cv+antenna+144&cd=8&hl=en&ct=clnk&sou
rce=www.google.com>
and hundreds more.

>I might just go that direction, Irv, depending on how things look with other
>designs. Thanks!
>
--
Ian

1028. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 11:53:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a465e6de-8145-4899-be1c-5961370948ac@s41g2000prb.googlegroups.com>
Source record: 5077

On May 9, 2:42 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Your assumption is correct! To avoid confusion, I mentioned: "that is
> VSWR = 2 for a 50 Ohms reference", but maybe it is because of English
> isn't my mother tongue.

It appeared to me that Walt was talking about the SWR in a matched system, i.e. Zs= Z0=Zload=100 ohms. There is rarely an actual technical disagreement between two technical heavyweights because we all studied the same textbooks. :-) Seems to me, about 95% of all technical arguments are semantic in nature.

For instance, from our earlier discussion, I believe that you consider the redistribution of RF energy associated with interference between waves to be a "reflection". To my way of thinking, a "reflection" is something that only can happen to a single wave, i.e. you and I may be presuming a different definition of "reflection" which is a semantic problem.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1029. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 11:59:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e672f21b-33f4-4a90-b83d-969e10502f75@l2g2000prg.googlegroups.com>
Source record: 5078

On May 10, 5:24 am, Richard Fry <r...@adams.net> wrote:
> Then the next question is what happened to the "missing" power?

I was taught that by convention, i.e. by definition, the missing power
was never generated in the first place - always seemed like a copout
to me. :-)
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1030. The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 13:13:36 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <0992ce75-dbbc-4863-bef9-1bcff1e86e33@d27g2000vbz.googlegroups.com>
Source record: 5079

I've been wanting to build a Lazy H antenna for 10 meters for some time now. Last summer I purchased a new house with some land, and I decided to give the Lazy H antenna a try. According to the ARRL handbook a Lazy H antenna with 1/2 spacing between the top and bottom elements has 5.9 db gain over a half wave dipole. At 5/8th wave spacing between the top and bottom elements the ARRL antenna handbook claims the Lazy H is suppose to have 6.7 db gain over a 1/2 dipole. In the real world I have found the Lazy H to actually have less gain than a 1/2 wave dipole at both 5/8th wave spacing and 1/2 wave spacing.
I viewed the W8JI web page concerning the Lazy H. I used 450 ohm ladder line between the top and bottom elements, and I center fed that piece of ladder line with another 100 foot run of 450 ohm ladder line back to the shack. The ladder line runs perpendicular away from the Lazy H. I attached the ladder line to the balanced line input on my Dentron MT-3000 antenna tuner.

Dentron MT-3000
http://www.eham.net/reviews/detail/868

The first thing I noticed is I have to turn the antenna matching adjustment all the way to the right to get the SWR to come down, and the transmitter matching to about 3 o'clock. I've never had to turn the antenna matching adjustment that far for any other antenna to match. I also hooked the ladder line to my Drake MN-75 antenna tuner with the 4:1 balun installed and the adjustments on the Drake antenna tuner where about the same as the Dentron MT-3000.
The top wire on the Lazy H is at about 45 feet. I also have a coax fed 1/2 wave dipole for 10 meters at about 30 feet. I live near Charleston, South Carolina, and I have both the dipole and the Lazy H broadside to southern California.

I did multiple A/B comparisons between the 1/2 wave 10 meter dipole and the 10 meter Lazy H and this is what I found.

Charleston, South Carolina to Arkanasas via sporaic E skip
- The dipole easily out performs the Lazy H

F layer skip....
Charleston, South Carolina. to Arizona
- The dipole easily out performs the Lazy H

Charleston, South Carolina to California
- The dipole easily out performs the Lazy H

Charleston, South Carolina to Hawaii
- The dipole and the Lazy H are about the same

When sporadic E skip rolled in from Ohio the Lazy H demonstrated the expected null to the North.

I have rechecked all the connections and they are correct. I verified the connections with an ohm meter and the top left element is connected to the bottom left element. The top right element is connected to the bottom right element. There is no connectivity between the left and right elements which is what the handbook shows. There is no twist in the ladder line that connects the top and bottom elements. This is a center fed Lazy H, and not a bottom fed Lazy H. I verified the Lazy was in fact pointing in the correct direction by rotation my dipole to null out signals coming from California. I noted the direction with my compass, and then I made sure the Lazy H was broadside to that direction on the compass.

Has anyone seen real world gain with the Lazy H on 10 meters verses a dipole? My experience shows it consistently lags behind the 1/2 wave dipole even through the Lazy H is 10+ feet higher than the dipole.

I also built an extended double zepp for 10 meters with a 450 matching section to a 1:1 balun and then to coax, and the extended double zepp consistently out performs the dipole in it's preferred direction.

1031. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 15:01:14 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <21a4497c-9988-4806-8f6f-50c1830d10c7@d15g2000yqn.googlegroups.com>
Source record: 5080

On May 10, 5:24 am, Richard Fry <r...@adams.net> wrote:
> RF

Ignore my earlier post in this thread. I used the wrong multiplier.

On further study it appears that the sum of the power contained in all perfect, coherent re-reflections from the source that will be absorbed by the load is asymptotic to the value of the power absorbed from the original incident wave (lossless transmission line).

1032. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 16:12:03 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iqbo2pebg1@news.jpl.nasa.gov>
Source record: 5083

On 5/9/2011 11:00 AM, Tom Rutherford wrote:
> <nm5k@wt.net> wrote in message
> news:9d937043-6175-4e25-b89b-8dbcfd643b6f@glegroupsg2000goo.googlegroups.com...
>> On Sunday, May 8, 2011 12:22:46 PM UTC-5, Tom Rutherford wrote:
>>
>>> The Yagi
>>> would be nice, but running out on the balcony and moving it around all
>>> the
>>> time isn't practical. That's why I wanted something fairly
>>> omnidirectional,
>>> as much of "omni" as I can get, anyway. Since I remember what my
>>> communications instructor told us about loops (they radiate equally
>>> poorly
>>> in all directions<g>), I figured this would be the most practical
>>> solution
>>> for what I want to do.
>>
>> Another possible idea could be the turnstile.
>> That is horizontal, pretty omni, and pretty simple
>> to build. Just a set of crossed dipoles fed 90 degrees
>> out of phase. I think you would have less gain vs
>> the broadside of a dipole, but you wouldn't have the
>> nulls off the ends.
>
> That's another good idea. Thanks. Are the elements of a turnstile spaced a
> quarter wavelength apart, or are they pretty much on top of each other?
>

On top of each other. Fed 90 degrees apart.

But I'd try a dipole first.

1033. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 16:13:48 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iqbo63ebg2@news.jpl.nasa.gov>
Source record: 5084

On 5/9/2011 6:13 PM, walt wrote:

>
> Wim, why is it that you can't seem to answer my question concerning
> the amount of power reflected from a 2:1 mismatch? The following is
> what you said in reply, totally ignoring the details in my question:
>
>> The problem really is that a simple small signal linear circuit theory
>> approach (which is what Thevenin equivalents and maximum power transfer
>> theorem are all about) breaks down, especially when you consider that
>> actual amplifiers have operating area limits that are some combination
>> of current, power, and voltage, and that amplifiers and power supplies
>> have efficiencies that vary a lot depending on the operating point,
>
> Your response above is totally evasive, and I can't understand why you
> would do this. There is a specific correlation between source power,

You're beating up on Wim, who didn't write that, I did.

I don't have time right now, but I will respond in due course.

73
Jim, W6RMK

1034. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 17:59:36 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <135b446b-b71c-4e67-9f15-3dc022e3d4ac@o8g2000prf.googlegroups.com>
Source record: 5085

On May 10, 10:01 am, Richard Fry <r...@adams.net> wrote:
> On further study it appears that the sum of the power contained in all
> perfect, coherent re-reflections from the source that will be absorbed
> by the load is asymptotic to the value of the power absorbed from the
> original incident wave (lossless transmission line).

There are two mechanisms responsible for the redistribution of
incident reflected power on/at the source back toward the load.

1. The incident reflected EM wave energy can be partially re-reflected
from a physical impedance discontinuity at the source and merge with
the forward EM wave energy. Note that "reflection" is something that
happens to a single wave.

2. The components of the reflected EM wave energy that are not
directly re-reflected can undergo superposition with other coherent EM
waves and, associated with destructive/constructive interference,
their energies can be redistributed back toward the load. Some
consider this to be a re-reflection but it is NOT since it involves
superposition of two (or more) EM waves.

Given that b1 = s11*a1 + s12*a2 = 0, what happens to the powers,
(s11*a1)^2 and (s12*a2)^2? If that energy is not moving toward the
source, it is moving toward the load and contained in (s21*a1)^2 and
(s22*a2)^2. That power is NOT a reflection. That's the conservation of
energy principle in action associated with destructive/constructive
interference.

When one calculates the source impedance based on the total
redistributed energy, one makes a large error when one assumes that
all of the redistributed energy is "reflected". It is possible for
there to exist zero re-reflected power while all of the reflected
power is redistributed back toward the load through superposition
associated with destructive/constructive interference. That's exactly
what happens in one of W7EL's food-for-thought#1 examples.

When W7EL's source sees an infinite impedance, there is zero power
dissipated in the 50 ohm source resistor. However, since we are using
50 ohm lossless coax, the Z0 of the coax is equal to the Zg of the
source so there are no re-reflections at the source, according to the
reflection model. Is that a contradiction as W7EL seems to suggest?
Absolutely not! He is simply missing the redistribution of reflected
energy back toward the load as constructive interference in balance
with the destructive interference at the source resistor.

In s-parameter terms, if b1 = s11*a1 + s12*a2 = 0, then all of the
incident reflected power must be redistributed back toward the load -
but not through re-reflection - just a necessary result of destructive
interference at the source resistor. I'm sure they exist but I
personally do not know any hams who understand that fact of physics
well recognized from the field of optics.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1035. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 18:42:59 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iqckbjsfr1@dont-email.me>
Source record: 4956

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:iq95pvjsk1@news.jpl.nasa.gov...
> On 5/8/2011 10:22 AM, Tom Rutherford wrote:
>> <nm5k@wt.net> wrote in message
>> news:3a19ea84-0424-4d5c-b21c-958224086da9@glegroupsg2000goo.googlegroups.com...
>>> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggle
=1&cop=mss&ei=UTF8&p=2%20meter%20halo
>>>
>>> Myself I'd probably stick a small 3 el yagi on that
>>> lamp mast if you had room..
>>> Good bit more punch for SSB, and being things are
>>> reciprocal, it will improve reception. If you squeeze
>>> an extra 6 db from the antenna system, that's like
>>> taking 50 watts and turning it to 200.
>>> Best deal on an "amp" you will find.. :)
>>> I'm not sure the gain using a halo, but I suspect
>>> it's probably pretty close to a dipole. Maybe a tad
>>> more, but it's not going to be a drastic difference.
>>> A loop has some gain broadside vs a dipole, but I'm
>>> not sure what you get running one on it's side.
>>
>> Thanks much. I'll have a look at that link and see what's what. The
>> Yagi
>> would be nice, but running out on the balcony and moving it around all
>> the
>> time isn't practical. That's why I wanted something fairly
>> omnidirectional,
>> as much of "omni" as I can get, anyway. Since I remember what my
>> communications instructor told us about loops (they radiate equally
>> poorly
>> in all directions<g>), I figured this would be the most practical
>> solution
>> for what I want to do.
>>
>
>
> A horizontal dipole in front of a screen or single reflector would have a
> "pattern" that is 100+ degrees wide.

How far behind the driven element should the reflector be? A quarter
wavelength?

> Stack a couple vertically, say a meter apart, and you squeeze the vertical
> beam width significantly, which is probably what you want.

Hmmm...! :-) That might be interesting, too. Feed them 90° out of phase?

> What you *might* want to do is look for a low gain TV antenna for the
> upper VHF bands (e.g. Channel 7-13): one of those two bay things with a
> bowtie in front of a screen.

Think I'd need some kind of a balun to get the impedences to match?

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1036. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 18:54:55 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d1859ecb-1914-43d3-92ec-180c1a08281c@x3g2000yqj.googlegroups.com>
Source record: 5086

```
On 10 mayo, 03:13, walt <w...@w2du.com> wrote:
> On May 9, 3:42 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 7 mayo, 01:51, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On May 6, 5:24 pm, walt <w...@w2du.com> wrote:
>
> > > > You have a 100-ohm source terminated with a 50-ohm load that provides
> > > > 100w. But you say with the VSWR = 2 the net power will increase to
> > > > 112w. How does this happen?
>
> > > Walt, here is probably what Wim means by that.
>
> > > Source------1/2WL 50 ohm lossless------RLoad
>
> > > Vsource = 212v, Rsource=100 ohms
>
> > > If Rload = 50 ohms, PLoad = 100w
>
> > > If Rload = 100 ohms, PLoad=112.5w
>
> > > Wim must be assuming a 50 ohm SWR in both cases.
> > > --
> > > 73, Cecil, w5dxp.com
> > > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> > Hello Cecil,
>
> > Your assumption is correct!  To avoid confusion, I mentioned: "that is
> > VSWR = 2 for a 50 Ohms reference", but maybe it is because of English
> > isn't my mother tongue.
>
> > I think it is not unusual to use 50 Ohms as reference when the output
> > specification says: "100W into 50 Ohms".
>
> > With kind regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
>
> Wim, why is it that you can't seem to answer my question concerning
> the amount of power reflected from a 2:1 mismatch? The following is
```

> what you said in reply, totally ignoring the details in my question:
>
> >The problem really is that a simple small signal linear circuit theory
> >approach (which is what Thevenin equivalents and maximum power transfer
> >theorem are all about) breaks down, especially when you consider that
> >actual amplifiers have operating area limits that are some combination
> >of current, power, and voltage, and that amplifiers and power supplies
> >have efficiencies that vary a lot depending on the operating point,
>
> Your response above is totally evasive, and I can't understand why you
> would do this. There is a specific correlation between source power,
> forward power and reflected power, such that with a 100w source in a
> 50-ohm system, a 2:1 mismatch, when the reflected power is re-
> reflected the forward power is 111.11w, reflected power is 11.111w,
> and power absorbed in the load is 100w.
>
> Now please explain with rigorous physics and math, how with a 100w
> source and a 2:1 mismatch you can justify a forward power of 130w and
> a reflected power of 15w. Is the fact that there is no way these
> values can exist is the reason you're evading answering the question?
> If someone who is unfamiliar with the truth in this instance came up
> with these absurd numbers, and who is willing to admit a mistake, I'm
> willing to forgive a mistake. But if you are stonewalling, is what it
> appears to be, then I'm not amused. And you should be ashamed for
> doing it.
>
> Walt, W2DU

Hello Walt,

I thought you would be able to do this yourself, so I only stated the net delivered power to a 100 Ohms load (that is the 111W), though the delivered power into the stated 50 ohms is 100W. The example was to show you with numbers what I experienced in practice when I was 16 years old and repeated it when I had access to good equipment (mentioned before).

In addition, it is not relevant to the output impedance issue of a PA, as you can calculate the increase in power due to mismatch (referenced to 50 Ohms) by just using Ohm's Law.

But here it comes:

We have 111W dissipated into a 100 Ohms load (from the EMF calculation, assuming 100 Ohms Zout for the PA and EMF = 212.1 Vrms). Reference for waves is 50 Ohms (according to the text on the back of the PA: "100 Watts into 50 Ohms"). We assume an electrically very small piece of 50 Ohms coaxial cable between the socket and the 100 Ohms load. This could be your reflectometer. If you like you may insert 0.5 lambda so that the PA sees 100 Ohms.

100 Ohms equals |rc| = 0.3333 (50 Ohms reference), I assume you know how to calculate this.

Hence "reflected power" = 0.333^2*"incident power" = 0.111*"incident power".

"net delivered power" = "incident power" – "reflected power" = 111W.

"net delivered power" = (1-0.11111)*"incident power" = 111W.

"incident power"= 125W, "reflected power" = 14 W

Do you realize that when using transmission line resonators (or filters) the forward and reflected power INSIDE the resonator can be very high, while the net input power can be very low?

Wim
PA3DJS
www.tetech.nl

1037. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 19:23:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vq2js6h1kafsuf60aoirvvn2mt9rc6rh03@4ax.com>
Source record: 5087

On Tue, 10 May 2011 06:13:36 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>
> I've been wanting to build a Lazy H antenna for 10 meters for some
>time now. Last summer I purchased a new house with some land, and I
>decided to give the Lazy H antenna a try. According to the ARRL
>handbook a Lazy H antenna with 1/2 spacing between the top and bottom
>elements has 5.9 db gain over a half wave dipole. At 5/8th wave
>spacing between the top and bottom elements the ARRL antenna handbook
>claims the Lazy H is suppose to have 6.7 db gain over a 1/2 dipole.
>In the real world I have found the Lazy H to actually have less gain
>than a 1/2 wave dipole at both 5/8th wave spacing and 1/2 wave
>spacing.

Hi Michael,

Then, there you have it (in your last sentence).

With a quick google of "Lazy H antenna" I find two ways to build one
(the difference being in the twist of the shared drive line between
the top and bottom elements when fed at the bottom). There are plenty
to ways to erect it wrong - to someone's sense of propriety.

Now, as to the gain. Commons sense (divorced from the effects of
ground) tell us that if one dipole has X gain, then two with the best
of additive aspects could only have 2X gain (3 dB). To say you can
achieve more than 6dB is another doubling without adding anymore
radiator (and performed only by some unspecified magic).

More the issue seems to be reporting gain. The numbers seem to be dBi
figures that are then compared to a dipole with the presumption the
dipole gain could be expressed as 0dBi.

Lastly, the Lazy H is designed like a two element yagi pointed
directly into the ground (go figure). There is some appeal to this
design being a curtain array (a topic for consideration), but then
what price in gain is being paid with the lower element hugging
ground. It couldn't possible radiate better than a similarly ground
hugging dipole (and yet all the praise seems to ignore this common
sense). The higher element certainly has a better chance, but then so
does a dipole at that altitude. So, how do you compare the two
designs? The simple dipole at the lowest element's position? or the
highest element's position? or split the difference?

73's
Richard Clark, KB7QHC

1038. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 19:32:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <te4js6litsdl1bkuljpkh77t2ofnp5lqjs@4ax.com>
Source record: 5088

On Tue, 10 May 2011 11:54:55 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>Do you realize that when using transmission line resonators (or
>filters) the forward and reflected power INSIDE the resonator can be
>very high, while the net input power can be very low?

And this asked of the designer of the Telstar antenna.

73's
Richard Clark, KB7QHC

1039. Re: WiFi Antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 19:36:06 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE1948986968notnowneverorg@127.0.0.1>
Source record: 5089

joeturn <joeturn2000@yahoo.com> wrote in
news:763ab894-d7c5-424e-b7f6-bd7edb81f78d@l16g2000yqo.googlegr
oups.com:

> http://www.engadget.com/2005/11/15/how-to-build-a-wifi-biqua
> d-dish-antenna/

WOW towards the end of the article, look at the gain from it?
Quote "Then found 14 other WISP APs including town D, 7.8
miles away." end quote.

As for the FCC, my inner self morals tell me to never let
anyone regulate antena theory and or education, sure I'll go
along with freq and power out control but refuse to conform to
antenna regs. Accept for "Height" of course.
This gadjet is impressive, and yes I love Covert WiFi
conections this one is on my list of things to do.
As long as I have a soldering Iron, who needs to
worry about "Connector" types and models hey hey.
Now for the PC flamers? We'll go ahead waist your time at
will.

--
May You reep the poverrty You have Voted for.

1040. Re: WiFi antenna recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 20:02:50 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE19911E53A0notnowneverorg@127.0.0.1>
Source record: 5090

John Smith <assemblywizard@gmail.com> wrote in news:gg5s6cfaq1
@news.albasani.net:

> http://tinyurl.com/653n5y

Why do all the "Tinyurl.com" links turn up DEAD.?

--
May You reep the poverrty You have Voted for.

1041. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 20:36:13 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <a281ea22-7bff-4e0c-be85-0cacc5c7e2ad@n10g2000yqf.googlegroups.com>
Source record: 5091

On 10 mayo, 21:32, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 10 May 2011 11:54:55 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >Do you realize that when using transmission line resonators (or
> >filters) the forward and reflected power INSIDE the resonator can be
> >very high, while the net input power can be very low?
>
> And this asked of the designer of the Telstar antenna.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

It doesn't matter what somebody designed in the past. I think my example regarding net power increase due to mismatch (referenced to 50 ohms) was fully clear.

Stressing on forward and reflected power (several times) may give rise to the thought that somebody can't solve such a transmission line problem himself. Note that I wasn't the one that brought up this issue (as Jim noted also), but I know the stated figures aren't strange.

I use a similar example in my antenna measurement classes to show that just calculating additional loss due to mismatch may go wrong completely when Rsource or Rload don't equal the reference impedance (mostly 50 Ohms).

Wim
PA3DJS
www.tetech.nl

1042. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 21:26:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ih9js6drrbjkp9tuah1ca5hun2hnv9q6cm@4ax.com>
Source record: 5092

On Tue, 10 May 2011 13:36:13 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>On 10 mayo, 21:32, Richard Clark <kb7...@comcast.net> wrote:
>> On Tue, 10 May 2011 11:54:55 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
>> wrote:
>>
>> >Do you realize that when using transmission line resonators (or
>> >filters) the forward and reflected power INSIDE the resonator can be
>> >very high, while the net input power can be very low?
>>
>> And this asked of the designer of the Telstar antenna.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Hi Richard,
>
>It doesn't matter what somebody designed in the past.

This is a very curious reply given that everyone of us here has
responded to the topic with past accomplishments. So it MUST matter,
otherwise you have just impeached your own credentials citing
experience at age 16, in work for a thesis, and work of the (recent)
past.

> I think my
>example regarding net power increase due to mismatch (referenced to 50
>ohms) was fully clear.

So clear that it has to presume Walt doesn't know transmission line
fundamentals?

>Stressing on forward and reflected power (several times) may give rise
>to the thought that somebody can't solve such a transmission line
>problem himself. Note that I wasn't the one that brought up this issue
>(as Jim noted also), but I know the stated figures aren't strange.

So, by your emphasis on forward and reflected power (several times) I
presume you can expand upon your application of transmission line
mechanics to offer something other than an oblique comment that
nothing is strange about:
>> Now please explain with rigorous physics and math, how with a 100w
>> source and a 2:1 mismatch you can justify a forward power of 130w and
>> a reflected power of 15w. Is the fact that there is no way these
>> values can exist is the reason you're evading answering the question?

If, by any chance of miscommunication, you do find this last quoted statement strange; it would be clarity itself to simply say so and we will wait for Jim to sort this out.

73's
Richard Clark, KB7QHC

1043. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 21:37:35 UTC
From: walt <walt@w2du.com>
Message-ID: <efe9e750-20a6-4373-80fa-547e8275a7e8@l18g2000yql.googlegroups.com>
Source record: 5093

On May 10, 3:32 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 10 May 2011 11:54:55 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >Do you realize that when using transmission line resonators (or
> >filters) the forward and reflected power INSIDE the resonator can be
> >very high, while the net input power can be very low?
>
> And this asked of the designer of the Telstar antenna.
>
> 73's
> Richard Clark, KB7QHC

This is for Richard Fry,

Richard, because the output source impedance of a p-network following a tube RF power amp is non-dissipative, no reflected wave enters it to be dissipated. Instead, the reflected power is totally re-reflected back into the line. The only loss from there on is due to line attenuation. The same is true when using an antenna tuner, total re-reflection. Thus, when ignoring the line loss, with a source power of 100w and a load mismatch of 2:1, the reflected power after reaching the steady state is 11.111w, and when added to the source power, the forward power is 111.11w.

Here is what I believe you missed: When the 111.11w arrives at the mismatch, 11.111w is reflected, leaving 100w dissipated in the load.

Correction for Richard Clark: My designs were for the dish antennas that went on the Moon buggies, and the antennas that flew on the 1st nine weather satellites. I also designed one of the quadrifilar helix antennas now flying on the polar-orbiting NOAA weather satellites. Not Telstar.

Now Wim, your math is very challenging: You state 100w delivered by the source, but at one point you also state 111w is delivered to the 100-load--at another point you state that 100w is delivered to the 100-ohm load. Which is it?

You also state that voltage out of the source is 212.1v--sum ting wong here. 212.1v across 50 ohms yields 899.73w, and 212.1v across 100 ohm yields 449.86w. These power values are nowhere near the values appearing in you statements.

In my calculations, with 100w the voltage across a 50-ohm line is 70.71v, and across a 100-ohm line the voltage is 100v.

With a 50-ohm line terminated in 100 ohms, the vrc is 0.3333 as you stated, thus the power-reflection coefficient is 0.1111. This means, as I've stated continually, that with 100w delivered by the source, the power reflected at the 2:1 mismatch is 11.111w, which when added to the 100w supplied by the source, makes the forward power 111.11w. Now with 11.111w of power reflected at the mismatch, this leaves 100w delivered to the 100-ohm load, not 111w. Please tell me where the 111w came from. You also haven't told us why you calculate 130w forward and 15w reflected. Someone else may have made these calculations, but it was you I asked for an explanation, because you repeated those calculations.

When using the correct physics and math in this example, how can the results be so different?

To close, let me present the procedure I use to calculate the total forward power--I guess it is related to Ohm's Law:

With the power-reflection coefficient as prc, the forward power PF = 1/(1 - prc).

So Wim, can you clarify the confusion you appear to have made?

Walt

1044. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 21:50:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vdcjs6t9ignq1edai8ojphenrc0eo1gbqj@4ax.com>
Source record: 5094

On Tue, 10 May 2011 14:37:35 -0700 (PDT), walt <walt@w2du.com> wrote:

>Correction for Richard Clark: My designs were for the dish antennas
>that went on the Moon buggies, and the antennas that flew on the 1st
>nine weather satellites. I also designed one of the quadrifilar helix
>antennas now flying on the polar-orbiting NOAA weather satellites. Not
>Telstar.

Hi Walt,

Your paygrade is still intact.

>Now Wim, your math is very challenging: You state 100w delivered by
>the source, but at one point you also state 111w is delivered to the
>100-load--at another point you state that 100w is delivered to the 100-
>ohm load. Which is it?

There seems to be a contagion of problems infecting this thread. Quite
typical for this class of discussion, unfortunately, with so many
"substitutions" offered in place of sticking with the subject.

>You also haven't told us why you calculate 130w forward and
>15w reflected. Someone else may have made these calculations, but it
>was you I asked for an explanation, because you repeated those
>calculations.

However, it is still Jim's cross to bear on this slow path to Calvary.

73's
Richard Clark, KB7QHC

1045. Re: WiFi antenna recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 22:02:19 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE1AD5394DE4notnowneverorg@127.0.0.1>
Source record: 5095

John Smith <assemblywizard@gmail.com> wrote in
news:ggdhv1$r7u$2@news.albasani.net:

> JIMMIE wrote:
>
> >> ...
>> Strange thing I know 3 of the people who have the open
>> systems and they are farly savy about these things. I
>> wonder if they are leaving them open on purpose.
>>
>> Jimmie
>
> I do. "They" call it a "honepot" (google it), fun to mess
> with 'em ... :-)
>
> Regards,
> JS

I especially enjoy being the one they are trying to mess with,
port 563 SSL 1024 bit encrypted connection to amsterdam good
luck, !!! No-one wants to clobber those ports, if they do they
can't online bank LOL.

--
May You reep the poverrty You have Voted for.

1046. Re: WiFi antenna recommendations?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 22:05:32 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE1ADDEF2C60notnowneverorg@127.0.0.1>
Source record: 5096
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,alt.internet.wireless

Jeff Liebermann <jeffl@cruzio.com> wrote in
news:rkoli4dv240dua688aajl5eqmf27sdlphj@4ax.com:

> However, he stupidly told all his friends, who immediately
> abused the system, so I locked it up with a WPA password.

Real easy to crack, google BackTrack 3 and weep. I preffer
cracking them for it is assured there is not much traffic on the
WEP and WPK pretected WiFi's .

--
May You reep the poverrty You have Voted for.

1047. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 22:34:36 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <533725c3-bb44-4558-8806-6b17d97ab4b6@s2g2000yql.googlegroups.com>
Source record: 5097

On May 10, 4:37 pm, walt <w...@w2du.com> wrote:
> This is for Richard Fry,
>
> Richard, because the output source impedance of a p-network following
> a tube RF power amp is non-dissipative, no reflected wave enters it to
>
> Here is what I believe you missed: When the 111.11w arrives at the
> mismatch, 11.111w is reflected, leaving 100w dissipated in the load.

Walt,

Let us start at T=0. The transmitter is keyed, and instantaneously delivers 100W to the input of a lossless transmission line. That 100W travels to the end of the transmission line and encounters a load connected there having a 2:1 mismatch to the Zo of the transmission line.

That load will dissipate about 88.889W, and reflect about 11.111W back to the source.

Likewise, the load will dissipate only 88.889% of the RE-reflected power from the source for the same reason it dissipated only 88.889% of the power in the original incident wave.

So even if the RE-reflection from the source is lossless, and phase-coherent with the original incident power at the load, how does this yield the 100W of load dissipation that you posit?

RF

1048. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 22:36:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <refjs6t1jmaf07v3bav9l3cfs6bejueogb@4ax.com>
Source record: 5098

On Tue, 10 May 2011 15:34:36 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>On May 10, 4:37ï¿½pm, walt <w...@w2du.com> wrote:
>> This is for Richard Fry,
>>
>> Richard, because the output source impedance of a p-network following
>> a tube RF power amp is non-dissipative, no reflected wave enters it to
>>
>> Here is what I believe you missed: When the 111.11w arrives at the
>> mismatch, 11.111w is reflected, leaving 100w dissipated in the load.
>
>Walt,
>
>Let us start at T=0. The transmitter is keyed, and instantaneously
>delivers 100W to the input of a lossless transmission line. That 100W
>travels to the end of the transmission line and encounters a load
>connected there having a 2:1 mismatch to the Zo of the transmission
>line.
>
>That load will dissipate about 88.889W, and reflect about 11.111W back
>to the source.
>
>Likewise, the load will dissipate only 88.889% of the RE-reflected
>power from the source for the same reason it dissipated only 88.889%
>of the power in the original incident wave.
>
>So even if the RE-reflection from the source is lossless, and phase-
>coherent with the original incident power at the load, how does this
>yield the 100W of load dissipation that you posit?
>
>RF

73's
Richard Clark, KB7QHC

1049. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 22:48:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8gfjs69r3ho5cltke6nb8sfhv6ph6c4gkd@4ax.com>
Source record: 5099

On Tue, 10 May 2011 15:34:36 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>So even if the RE-reflection from the source is lossless, and phase-
>coherent with the original incident power at the load, how does this
>yield the 100W of load dissipation that you posit?

The PI network between the tube and the output connector transforms
the tube Hi-Z to 50 Ohms (or any other suitable Z); however, the same
PI network's input Z (from the perspective of the returning, original
reflection) is NOT 50 Ohms, it is the complex conjugate (whatever 2:1
brings to the table) of the load answering phase-coherency, hence it
reflects the reflection (by the same mechanism of mismatch) to the
dissipative load the antenna, and thus into the ï¿½ther.

The transmission line is bounded at either end by identical mismatches
in conjugation. There is a "ringing" in the line, which at only one
end there is dissipation (neglecting loss and damage to the tube for
exceeding maximum tolerances, of course).

73's
Richard Clark, KB7QHC

1050. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 23:22:28 UTC
From: walt <walt@w2du.com>
Message-ID: <49cc2597-9de6-4863-86bc-80f6a71bfcd0@w21g2000yqm.googlegroups.com>
Source record: 5100

On May 10, 6:48 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 10 May 2011 15:34:36 -0700 (PDT), Richard Fry <r...@adams.net>
> wrote:
>
> >So even if the RE-reflection from the source is lossless, and phase-
> >coherent with the original incident power at the load, how does this
> >yield the 100W of load dissipation that you posit?
>
> The PI network between the tube and the output connector transforms
> the tube Hi-Z to 50 Ohms (or any other suitable Z); however, the same
> PI network's input Z (from the perspective of the returning, original
> reflection) is NOT 50 Ohms, it is the complex conjugate (whatever 2:1
> brings to the table) of the load answering phase-coherency, hence it
> reflects the reflection (by the same mechanism of mismatch) to the
> dissipative load the antenna, and thus into the æther.
>
> The transmission line is bounded at either end by identical mismatches
> in conjugation. There is a "ringing" in the line, which at only one
> end there is dissipation (neglecting loss and damage to the tube for
> exceeding maximum tolerances, of course).
>
> 73's
> Richard Clark, KB7QHC

For Richard F.

Where does the 88.889w of power delivered to the load come from? I calculate it as 100w. 100/111.11 = 0.9000. Since 11.111w of power reflected at a 2:1 mismatch with a 100 source and lossless line is indisputable, then the mismatched load will dissipate 90% of the forward power. 90% of 111.11w is 100w. So please explain the significance of 88.889w. I can't see it as relevant.

Walt

1051. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 23:27:00 UTC
From: walt <walt@w2du.com>
Message-ID: <0e9402dd-fc8a-44fe-85bd-5af24ae7b44b@x10g2000yqj.googlegroups.com>
Source record: 4951

On May 10, 7:22 pm, walt <w...@w2du.com> wrote:
> On May 10, 6:48 pm, Richard Clark <kb7...@comcast.net> wrote:
>
>
>
>
>
>
>
>
>
>
> > On Tue, 10 May 2011 15:34:36 -0700 (PDT), Richard Fry <r...@adams.net>
> > wrote:
>
> > >So even if the RE-reflection from the source is lossless, and phase-
> > >coherent with the original incident power at the load, how does this
> > >yield the 100W of load dissipation that you posit?
>
> > The PI network between the tube and the output connector transforms
> > the tube Hi-Z to 50 Ohms (or any other suitable Z); however, the same
> > PI network's input Z (from the perspective of the returning, original
> > reflection) is NOT 50 Ohms, it is the complex conjugate (whatever 2:1
> > brings to the table) of the load answering phase-coherency, hence it
> > reflects the reflection (by the same mechanism of mismatch) to the
> > dissipative load the antenna, and thus into the æther.
>
> > The transmission line is bounded at either end by identical mismatches
> > in conjugation. There is a "ringing" in the line, which at only one
> > end there is dissipation (neglecting loss and damage to the tube for
> > exceeding maximum tolerances, of course).
>
> > 73's
> > Richard Clark, KB7QHC
>
> For Richard F.
>
> Where does the 88.889w of power delivered to the load come from? I
> calculate it as 100w. 100/111.11 = 0.9000. Since 11.111w of power
> reflected at a 2:1 mismatch with a 100 source and lossless line is
> indisputable, then the mismatched load will dissipate 90% of the
> forward power. 90% of 111.11w is 100w. So please explain the
> significance of 88.889w. I can't see it as relevant.
>
> Walt

Richard, the point I missed until rereading your post, is that there is total re-reflection of the reflected wave at either the output of the correctly-adjusted pi-network, or at the output of the antenna tuner, not the same mismatch as between the line and the load.

Walt

1052. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 23:28:23 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <b59515fa-0bae-4c28-b91d-772bc576ade8@m10g2000yqd.googlegroups.com>
Source record: 4952

On May 10, 5:48 pm, Richard Clark <kb7...@comcast.net> wrote:
> The transmission line is bounded at either end by identical mismatches
> in conjugation. There is a "ringing" in the line, which at only one
> end there is dissipation (neglecting loss and damage to the tube for
> exceeding maximum tolerances, of course).

If, as you have posted, dissipation occurs only at one end of the transmission line -- which presumably for the most useful benefit would be at the end of the line opposite the source, e.g., the load -- and the incident power generated and delivered to that line by the final r-f stage in the transmitter is a constant, then how could "damage to the tube" occur?

Just to note that as a field engineer for RCA Broadcast for many years I have had to troubleshoot and repair failures that occurred in transmission lines, transmitters, and output networks that resulted from reflections -- either from within the transmission line alone, or together with the load connected at its far end.

RF

1053. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-10 23:51:21 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <1c16494c-e26a-4110-bd95-3fc8017c99d0@j23g2000yqc.googlegroups.com>
Source record: 4953

On May 10, 6:22 pm, walt <w...@w2du.com> wrote:
> Where does the 88.889w of power delivered to the load come from?
> I calculate it as 100w. 100/111.11 = 0.9000.

Yes, Walt, 100/111.11 = 0.9.

But a transmitter generating 100W does not deliver 111.11 watts in the original incident wave arriving at a load VSWR of 2:1 w.r.t a lossless transmission line used to convey that power. It delivers only 100W.

Of that 100W, 88.889W is absorbed by the load, and 11.111W is reflected back to the source.

THAT is where the 88.889W comes from.

Also note that 0,9 does not equal 0.8889.

RF

1054. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 00:00:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <prijs65voceictj9lv29shhtjh1pmk33cd@4ax.com>
Source record: 4954

On Tue, 10 May 2011 16:28:23 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>If, as you have posted, dissipation occurs only at one end of the
>transmission line -- which presumably for the most useful benefit
>would be at the end of the line opposite the source, e.g., the load --
>and the incident power generated and delivered to that line by the
>final r-f stage in the transmitter is a constant, then how could
>"damage to the tube" occur?

Hi Richard,

Note how you were careful to specify "phase coherent."

This is dangerous to speak of power in this way, energy would be
better, but I will proceed with caution thrown to the winds:

When the reflection hits the transmitter port, it sees the conjugate
of the load. As the load was 2:1 (and trusting everyone's math with
my own rounding) this means that the transmitter port also presents a
2:1 mismatch at this near end of the coax. Some (10%) of the power in
the reflection is re-reflected to the load. Some (90%) of the power
in the reflection re-enters the transmitter to add to the next cycle
of power going out. In this scenario, that amounts to 9W going into
and being coherently impressed upon the tube. The transmitter, then,
becomes a buck-boosted 109W source conjugately matched into a 2:1
mismatched load.

9 additional watts at the plate isn't much, but I dare say there are
many problems with transmitter tolerances even if you could tune into
a short, or an open. Yes, somewhere the SWR meter says everything is
hunky-dory, while the smoke is poring out.

Another way of putting it is saying the ringing line is holding 10W
until it is dissipated. So far, only the antenna qualifies as
dissipation.

Through the magic of Integral Calculus, all the bits and pieces
ringing around the system sum up to the whole numbers we started with.

No doubt this will provoke examinations, re-examinations,
cross-examinations, innuendo, rants, and raves (or possibly disdainful
silence) - something for everyone to enjoy. ;-O

73's
Richard Clark, KB7QHC

1055. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 00:05:22 UTC
From: walt <walt@w2du.com>
Message-ID: <99add291-e8ed-4095-9da8-a7b9d58fb77f@p13g2000yqh.googlegroups.com>
Source record: 4955

On May 10, 7:28 pm, Richard Fry <r...@adams.net> wrote:
> On May 10, 5:48 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > The transmission line is bounded at either end by identical mismatches
> > in conjugation. There is a "ringing" in the line, which at only one
> > end there is dissipation (neglecting loss and damage to the tube for
> > exceeding maximum tolerances, of course).
>
> If, as you have posted, dissipation occurs only at one end of the
> transmission line -- which presumably for the most useful benefit
> would be at the end of the line opposite the source, e.g., the load --
> and the incident power generated and delivered to that line by the
> final r-f stage in the transmitter is a constant, then how could
> "damage to the tube" occur?
>
> Just to note that as a field engineer for RCA Broadcast for many years
> I have had to troubleshoot and repair failures that occurred in
> transmission lines, transmitters, and output networks that resulted
> from reflections -- either from within the transmission line alone, or
> together with the load connected at its far end.
>
> RF

Yes Richard, I'm familiar with your work at RCA Broadcast Div.
However, in my posts I'm concerned only with tube rigs used in the
Amateur Service. In these rigs reflected power doesn't cause
overheating, or other damage to the tubes. But I'll qualify that
statement--if the pi-network is originally resonated into, say, a
dummy load, and is then switched to a mismatched line without
retuning, the reactance appearing at the input of the mismatched line
detunes the network and the result is the same is if the network was
left off resonance initially. As you well know, a mis-tuned pi-network
results in excessive plate current, which, if high enough will damage
the tube. Consequently, it's the mis-tuning that causes the damage,
not the reflections per se.

Incidentally Richard, I was also an electrical engineer with RCA, from
1949 thru 1980, first at the RCA Labs in Princeton and beginning in
1958 with Astro.

Walt

1056. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 00:14:56 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <383ce12a-ee27-4891-80b7-9520fcd2c939@m10g2000yqd.googlegroups.com>
Source record: 4957

On May 10, 7:00 pm, Richard Clark <kb7...@comcast.net> wrote:
> Another way of putting it is saying the ringing line is holding 10W
> until it is dissipated. So far, only the antenna qualifies as
> dissipation.

Apparently you have never had to repair the components of a
transmitter PA, an output network, or a transmission line that arced
over and/or melted down due to load reflections (coherent, or not).

RF

1057. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 00:40:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0jmjs6dvfgdbarkq1n5u7pteo06r83274o@4ax.com>
Source record: 4958

On Tue, 10 May 2011 17:14:56 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>On May 10, 7:00ï¿½pm, Richard Clark <kb7...@comcast.net> wrote:
>> Another way of putting it is saying the ringing line is holding 10W
>> until it is dissipated. ï¿½So far, only the antenna qualifies as
>> dissipation.
>
>Apparently you have never had to repair the components of a
>transmitter PA, an output network, or a transmission line that arced
>over and/or melted down due to load reflections (coherent, or not).

Not more than a quarter million Watts, fur shure. Does it show?

Seriously, if that was your only rant, based on that snippet, like
Wim, you have just indicted your own witness (experience?).
>
>RF

73's
Richard Clark, KB7QHC

1058. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 02:27:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <goijs6pevbl5fk1kmu8pgp2qa57q3ihorn@4ax.com>
Source record: 4959

On Tue, 10 May 2011 16:27:00 -0700 (PDT), walt <walt@w2du.com> wrote:

>Richard, the point I missed until rereading your post, is that there
>is total re-reflection of the reflected wave at either the output of
>the correctly-adjusted pi-network, or at the output of the antenna
>tuner, not the same mismatch as between the line and the load.
>
>Walt

Hi Walt,

The mismatch, of the reflection wave approaching the transmitter, is seen at the antenna/tuner connection. Hence we have a reflection there back to the load.

In regard to solving the transmission line problem where the mismatched load acts as the source of energy (found in the reflection); then that energy must travel to meet a matching load where the load (our transmitter) complete takes it in, or a mismatch where some energy passes into the load (our transmitter) and some is reflected according to the conventional mechanics of mis-matching.

I take this step given the evidence of physics and reflection at even the most specular of surfaces. There is some portion of the energy that exists within a quarter wave behind/beneath the surface of a reflector (I am speaking of light, but lower frequencies doesn't alter the situation). That is to say, there is no infinitesimally thin boundary through which energy does not pass - even for a perfect reflector.

In antennas, we call this zone the reactive field.

Hence, the reflection seeing the mismatch of the tuner/tuned output, finds its way beyond the connector, back into the internals, passing through transform circuitry.

73's
Richard Clark, KB7QHC

1059. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 02:35:55 UTC
From: walt <walt@w2du.com>
Message-ID: <6c7286dc-1747-4cc3-b971-14aa108787e1@t19g2000yql.googlegroups.com>
Source record: 4960

On May 10, 8:40 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 10 May 2011 17:14:56 -0700 (PDT), Richard Fry <r...@adams.net>
> wrote:
>
> >On May 10, 7:00 pm, Richard Clark <kb7...@comcast.net> wrote:
> >> Another way of putting it is saying the ringing line is holding 10W
> >> until it is dissipated. So far, only the antenna qualifies as
> >> dissipation.
>
> >Apparently you have never had to repair the components of a
> >transmitter PA, an output network, or a transmission line that arced
> >over and/or melted down due to load reflections (coherent, or not).
>
> Not more than a quarter million Watts, fur shure. Does it show?
>
> Seriously, if that was your only rant, based on that snippet, like
> Wim, you have just indicted your own witness (experience?).
>
>
>
> >RF
>
> 73's
> Richard Clark, KB7QHC

To Richard C:

Richard, I must totally disagree that the same degree of mismatch occurs at the tx output as at the dissipative load, the antenna. As I have said many times, with the non-dissipative output source impedance of the RF amp (tubes) the reflection at the junction of the line input and the pi-network output is total. In other words, all of the reflected power incident on the output of the pi-network is TOTALLY re-reflected. Can't be anything less!

To Richard F. And I disagree that the load mismatched at 2:1 absorbs 88.8889% of the forward power. It is 90% !!! We are discussing steady-state values, in which arrival of the first forward wave is irrelevant. If you are so confident that the number is 88.8889%, please derive the conditions that yield that number.

I never thought I'd be having this discussion.

Walt

1060. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 05:35:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <585ks61jc6k3jiire16d5ga6lva6f5vdm0@4ax.com>
Source record: 4961

On Tue, 10 May 2011 19:35:55 -0700 (PDT), walt <walt@w2du.com> wrote:

>To Richard C:
>
>Richard, I must totally disagree that the same degree of mismatch
>occurs at the tx output as at the dissipative load, the antenna. As I
>have said many times, with the non-dissipative output source impedance
>of the RF amp (tubes) the reflection at the junction of the line input
>and the pi-network output is total. In other words, all of the
>reflected power incident on the output of the pi-network is TOTALLY re-
>reflected. Can't be anything less!

Hi Walt,

There's an active load behind that 2:1 mismatch seen by the reflected
power returning from the load. That is my part of the discussion.

However, if you are going to neglect that interpretation, then there
must be some explanation for TOTAL reflection. Fortunately there is,
it is called an open, or a short.

Now, we come to a philosophical quandry of the "Conjugate Match." If
we tune to a load, and we guarantee that the tune is the conjugate of
the load, then at any point along the transmission line in between
there exists looking at either end a conjugate of the opposite end.

In other words, putting a network analyzer into the line looking at
the load it sees R +jX, and looking back at the source it sees R -jX.
This is conjugation. Moving the analyzer along the length of the line
will transform R and X, but they will always track to a solution of
the conjugate.

You've been arguing this for years.

And, as the load is neither a short, nor an open (which is a special
solution of conjugation); then it stands to reason it is something
other which necessarily demands a solution in the form of:
R ï¿½jX
from the source, where R has some non-zero, and non-infinite value.
For trivial antennas, that value of R falls somewhere between the 10s
of Ohms and the 100s of Ohms. For trivial, retail transmitters
available to Hams, similar values of R abound but most often fall
closest to 50 Ohms, or they would have a hard time getting optimal
power into the 50 Ohm pipe. Vendors are not going to shoot themselves
in the foot before that race.

A TOTAL reflection is available courtesy of the "active" part of this special load. The "active" load (the transmitter sinking the reflected power from the dissipative load) can offer one of two mechanisms to provide the necessary short or open. When the source wave coming out meets the returning wave coming in, and they are phase coherent at 0 degree difference, then there is no potential difference through the connector - no current flow. No current flow = open circuit. Open circuit satisfies TOTAL reflection mechanics (but violates conjugation). If they are phase coherent, but 180 degrees different, then there is maximum current = short circuit. Short circuit satisfies TOTAL reflection mechanics (but violates conjugation).

However, in either of these scenarios, both powers (actually energies) must be equal. Obviously that isn't the case with a nominal 100W source looking at a 10W reflection.

Hence the analysis draws out slightly more along the lines I've already posted and won't repeat here.

However, for the sake of argument, the condition of tune (conjugation) and the state of coherency (a slippery slope, but here we are), combine through a ringing in the line to create a virtual TOTAL reflection at the connector of the Tuner/tuned amplifier. So, Walt, I am not denying your case, but in the earlier posting I do preserve conjugation in the explanation.

No transmitter, even with the best of tuning attempting to match will forgive a short or open as load however. And, yes Richard, I have experienced such conditions with 10s of W to 100s of kW and not all of them accidental.

Another issue of moving sensors along the transmission line between high mismatches is that there will be considerable error in the determination of power - I presume this is where Jim's bookkeeping explanation will lead, but that is still hanging on the line (no pun there). I have experience the difficulty of those conditions too when making precision power measurements.

73's
Richard Clark, KB7QHC

1061. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 11:21:55 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <e91906e5-230d-4885-8917-6f5e75027ae1@w24g2000yqb.googlegroups.com>
Source record: 4962

On May 10, 9:35 pm, walt <w...@w2du.com> wrote:
>If you are so confident that the number is 88.8889%,
> please derive the conditions that yield that number.

Γ = R(load) - R(source) / R(load) + R(source)

SWR = (1 + |Γ|) / (1 - |Γ|)

Power Accepted by the Load = Incident Power * (1 - Γ^2)

For a 50 ohm source connected to a 100 ohm load:

Γ = (100 - 50) / (100 + 50) = 50 / 150 = 0.333333...

SWR = (1 + 0.333333) / (1 - 0.333333) = 1.333333 / 0.666666 = 2:1

Load Power = Incident Power * (1 - 0.333333^2) = Incident Power *
0.888889 (or 88.8889%)

The answers are the same for a 50 ohm source with a 25 ohm load.

RF

1062. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 11:52:46 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <iqdtah$d3p$1@speranza.aioe.org>
Source record: 4963

On 11/05/2011 12:21, Richard Fry wrote:
> On May 10, 9:35 pm, walt<w...@w2du.com> wrote:9.542
>> If you are so confident that the number is 88.8889%,
>> please derive the conditions that yield that number.
>
> oΩ½ = R(load) - R(source) / R(load) + R(source)
>
> SWR = (1 + |oΩ½|) / (1 - |oΩ½|)
>
> Power Accepted by the Load = Incident Power * (1 - oΩ½^2)
>
> For a 50 ohm source connected to a 100 ohm load:
>
> oΩ½ = (100 - 50) / (100 + 50) = 50 / 150 = 0.333333...
>
> SWR = (1 + 0.333333) / (1 - 0.333333) = 1.333333 / 0.666666 = 2:1
>
> Load Power = Incident Power * (1 - 0.333333^2) = Incident Power *
> 0.888889 (or 88.8889%)
>
> The answers are the same for a 50 ohm source with a 25 ohm load.
>
> RF

Or expressed another way a 2:1 vswr equates to a return loss of 9.542dB
and so a mismatch loss of -0.512dB which equates to 0.888 or 88.8% .

Jeff

1063. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 12:03:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <054b5231-2437-4fb0-82ea-79bd7cea3646@b7g2000prg.googlegroups.com>
Source record: 4964

On May 10, 5:34 pm, Richard Fry <r...@adams.net> wrote:
> Let us start at T=0. The transmitter is keyed, and instantaneously
> delivers 100W to the input of a lossless transmission line. That 100W
> travels to the end of the transmission line and encounters a load
> connected there having a 2:1 mismatch to the Zo of the transmission
> line.
>
> That load will dissipate about 88.889W, and reflect about 11.111W back
> to the source.
>
> Likewise, the load will dissipate only 88.889% of the RE-reflected
> power from the source for the same reason it dissipated only 88.889%
> of the power in the original incident wave.
>
> So even if the RE-reflection from the source is lossless, and phase-
> coherent with the original incident power at the load, how does this
> yield the 100W of load dissipation that you posit?

It's what happens while going from T0 to steady-state.

Pload = 88.889w --> 98.8w --> ... --> 100w
Pfor = 100w --> 111.11w --> ... --> 112.5w
Pref = 11.11w --> 12.3w --> ... --> 12.5w
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1064. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 12:19:47 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <ad288f61-df27-4d0d-a64c-cf40c9480da4@hd10g2000vbb.googlegroups.com>
Source record: 4965

On May 10, 3:23 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 10 May 2011 06:13:36 -0700 (PDT), Michael
>
> <goo...@shadowstorm.com> wrote:
>
> > I've been wanting to build a Lazy H antenna for 10 meters for some
> >time now. Last summer I purchased a new house with some land, and I
> >decided to give the Lazy H antenna a try. According to the ARRL
> >handbook a Lazy H antenna with 1/2 spacing between the top and bottom
> >elements has 5.9 db gain over a half wave dipole. At 5/8th wave
> >spacing between the top and bottom elements the ARRL antenna handbook
> >claims the Lazy H is suppose to have 6.7 db gain over a 1/2 dipole.
> >In the real world I have found the Lazy H to actually have less gain
> >than a 1/2 wave dipole at both 5/8th wave spacing and 1/2 wave
> >spacing.
>
> Hi Michael,
>
> Then, there you have it (in your last sentence).
>
> With a quick google of "Lazy H antenna" I find two ways to build one
> (the difference being in the twist of the shared drive line between
> the top and bottom elements when fed at the bottom). There are plenty
> to ways to erect it wrong - to someone's sense of propriety.
>
> Now, as to the gain. Commons sense (divorced from the effects of
> ground) tell us that if one dipole has X gain, then two with the best
> of additive aspects could only have 2X gain (3 dB). To say you can
> achieve more than 6dB is another doubling without adding anymore
> radiator (and performed only by some unspecified magic).
>
> More the issue seems to be reporting gain. The numbers seem to be dBi
> figures that are then compared to a dipole with the presumption the
> dipole gain could be expressed as 0dBi.
>
> Lastly, the Lazy H is designed like a two element yagi pointed
> directly into the ground (go figure). There is some appeal to this
> design being a curtain array (a topic for consideration), but then
> what price in gain is being paid with the lower element hugging
> ground. It couldn't possible radiate better than a similarly ground
> hugging dipole (and yet all the praise seems to ignore this common
> sense). The higher element certainly has a better chance, but then so
> does a dipole at that altitude. So, how do you compare the two

> designs? The simple dipole at the lowest element's position? or the
> highest element's position? or split the difference?
>
> 73's
> Richard Clark, KB7QHC

It may be possible to get the performance of the Lazy H antenna up by matching it at the antenna with a 1/4 matching stub, but clearly running 100 feet of 450 ohm ladder line from the center of the Lazy H back to an antenna tuner does not work very well on 10 meters. I took the Lazy H down yesterday and put up the previously mentioned extended double zepp using the same support ropes, and the extended double zepp out performed the dipole on every A/B comparison in it's preferred direction.

Michael Rawls
KS4HY

1065. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 12:33:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6169c590-c3a7-4c20-a339-41c0bb3070e4@s9g2000yqm.googlegroups.com>
Source record: 4966

On May 10, 9:35 pm, walt <w...@w2du.com> wrote:
> Richard, I must totally disagree that the same degree of mismatch
> occurs at the tx output as at the dissipative load, the antenna.

May I suggest that we simplify the example by removing the tuner from
the discussion?

100w--+----1/4WL 100 ohm feedline----200 ohm load

Same conditions as before. The voltage reflection coefficient at the
load is 0.3333. The power reflection coefficient at the load is
0.1111. A 50 ohm Z0-match exists at point '+' without a tuner. No
reflected energy reaches the source.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1066. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 14:15:58 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b6eedced-63e7-4099-b3d2-a6658515592a@q32g2000yqn.googlegroups.com>
Source record: 4967

On 10 mayo, 23:37, walt <w...@w2du.com> wrote:

[deleted]

> Now Wim, your math is very challenging: You state 100w delivered by
> the source, but at one point you also state 111w is delivered to the
> 100-load--at another point you state that 100w is delivered to the 100-
> ohm load. Which is it?
>
> You also state that voltage out of the source is 212.1v--sum ting wong
> here. 212.1v across 50 ohms yields 899.73w, and 212.1v across 100 ohm
> yields 449.86w. These power values are nowhere near the values
> appearing in you statements.
>
> In my calculations, with 100w the voltage across a 50-ohm line is
> 70.71v, and across a 100-ohm line the voltage is 100v.
>
> With a 50-ohm line terminated in 100 ohms, the vrc is 0.3333 as you
> stated, thus the power-reflection coefficient is 0.1111. This means,
> as I've stated continually, that with 100w delivered by the source,
> the power reflected at the 2:1 mismatch is 11.111w, which when added
> to the 100w supplied by the source, makes the forward power 111.11w.
> Now with 11.111w of power reflected at the mismatch, this leaves 100w
> delivered to the 100-ohm load, not 111w. Please tell me where the 111w
> came from. You also haven't told us why you calculate 130w forward and
> 15w reflected. Someone else may have made these calculations, but it
> was you I asked for an explanation, because you repeated those
> calculations.
>
> When using the correct physics and math in this example, how can the
> results be so different?
>
> To close, let me present the procedure I use to calculate the total
> forward power--I guess it is related to Ohm's Law:
>
> With the power-reflection coefficient as prc, the forward power PF = 1/
> (1 - prc).
>
> So Wim, can you clarify the confusion you appear to have made?
>
> Walt

Hello Walt,

The source (that is the PA in this case) produces an EMF (as mentioned before) of 212.1Vrms, Source impedance is 100 Ohms (so forget the "conjugated match" thing for this case).

When terminated according to the numbers above the socket ("100W into 50 Ohms"), this results in 100W (Vout = 212.1*50/(50+100) = 70.7V, just a voltage divider consisting of 100 Ohms and 50 Ohms).

70.7V into 50 Ohms makes 100W.

Now we remove the 50 Ohms load and create a mismatch (referenced to 50 Ohms), by connecting a 100 Ohms load (VSWR = 100/50 = 2)

Now the output voltage will be:

Vout = 212.1*100/(100 +100) = 106V

106V into 100 Ohms makes 112W (forgive me the one Watt difference).

This all without any transmission line theory.

Now the forward and reflected power balance (this is exactly the same as in my previous posting, except for using 112W instead of 111W):

100 Ohms equals |rc| = 0.3333 (50 Ohms reference).

Hence "reflected power" = 0.333^2*"incident power" = 0.111*"incident power".

"net delivered power" = "incident power" – "reflected power" = 112W.

"net delivered power" = (1-0.11111)*"incident power" = 112W.

"incident power"= 126W, "reflected power" = 14 W

As far as I can see, there is nothing new with respect to the previous calculation, except for the truncation/rounding.

Similar reasoning can be applied to my class-E PA. It is designed for 500W into 4.5 Ohm, but the output impedance is below 1 Ohms. If you try to achieve conjugate match, you fry the active devices. Same is valid for most audio amplifiers, they may mention: "80W into 8 Ohm", but that does not mean that Zout = 8 Ohms.

Awaiting your comment,

Wim
PA3DJS
www.tetech.nl

1067. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 14:57:07 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <10d3bfac-ee26-44ca-aaa1-4ffa4b8331a6@d1g2000yqm.googlegroups.com>
Source record: 4968

On 11 mayo, 02:05, walt <w...@w2du.com> wrote:
> On May 10, 7:28 pm, Richard Fry <r...@adams.net> wrote:
>
>
>
> > On May 10, 5:48 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > > The transmission line is bounded at either end by identical mismatches
> > > in conjugation. There is a "ringing" in the line, which at only one
> > > end there is dissipation (neglecting loss and damage to the tube for
> > > exceeding maximum tolerances, of course).
>
> > If, as you have posted, dissipation occurs only at one end of the
> > transmission line -- which presumably for the most useful benefit
> > would be at the end of the line opposite the source, e.g., the load --
> > and the incident power generated and delivered to that line by the
> > final r-f stage in the transmitter is a constant, then how could
> > "damage to the tube" occur?
>
> > Just to note that as a field engineer for RCA Broadcast for many years
> > I have had to troubleshoot and repair failures that occurred in
> > transmission lines, transmitters, and output networks that resulted
> > from reflections -- either from within the transmission line alone, or
> > together with the load connected at its far end.
>
> > RF
>
> Yes Richard, I'm familiar with your work at RCA Broadcast Div.
> However, in my posts I'm concerned only with tube rigs used in the
> Amateur Service. In these rigs reflected power doesn't cause
> overheating, or other damage to the tubes.

To Walt: (Steady state) Load conditions can be specified in many forms
(complex impedance, complex reflection coefficient, VSWR with phase,
etc), but depending on the actual integral of the Vp*Ip product, the
plate's dissipation may decrease or increase (due to a load change).

So changing the load (without retuning as you mentioned below) may put
your tubes at risk. Your qualification below seems to contradict your
statement above.

> But I'll qualify that
> statement--if the pi-network is originally resonated into, say, a
> dummy load, and is then switched to a mismatched line without
> retuning, the reactance appearing at the input of the mismatched line

> detunes the network and the result is the same is if the network was
> left off resonance initially. As you well know, a mis-tuned pi-network
> results in excessive plate current, which, if high enough will damage
> the tube. Consequently, it's the mis-tuning that causes the damage,
> not the reflections per se.
>
> Incidentally Richard, I was also an electrical engineer with RCA, from
> 1949 thru 1980, first at the RCA Labs in Princeton and beginning in
> 1958 with Astro.
>
> Walt

Wim
PA3DJS
www.tetech.nl

1068. Re: Calling for Americans to Investigate 'magical, god like" Private Bankers with Triillions managing still our bank buildings that "LOST" all our monies mysteriously somewheres..

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 14:58:46 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE26584131DFnotnowneverorg@127.0.0.1>
Source record: 4969
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.scanner

"KD8IMG, Robert Trendel, is a twice convicted stalker of
women." <mopeyzakween@yahoo.com> wrote in news:51fe51e4-7101-
42fc-b89c-a2adc47f6020@o36g2000yqh.googlegroups.com:

> investigate THIS, asswipe!
>
> http://en.wikipedia.org/wiki/Felching
>

Thats GROSS we didn't need to see that.

--
May You reep the poverrty You have Voted for.

1069. Re: Calling for Americans to Investigate 'magical, god like" Private Bankers with Triillions managing still our bank buildings that "LOST" all our monies mysteriously somewheres..

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 15:02:24 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE2662265E8Bnotnowneverorg@127.0.0.1>
Source record: 4970
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.scanner

Your plonked, this has what to do with antenna theory?

1070. Re: VHF static

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 15:27:06 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE26A5256375notnowneverorg@127.0.0.1>
Source record: 4971

I don't know how much more of these my Kill file can handle but
here goes "PLONK"!!

1071. Re: Sharing Internet Connection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 16:21:56 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE2739DFE831notnowneverorg@127.0.0.1>
Source record: 4972
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in
news:dg3ql.51296$uG1.45551@newsfe16.iad:

>
> "Highland Ham" <rfburns@allbands.net> wrote in message
> news:XMydnYUINNcDVzrUnZ2dnUVZ8omWnZ2d@pipex.net...
>
>> In the end it all boils down to : Trust thy neigbour.
>> Also ,there is no life without risk.
>>
>> Frank GM0CSZ / KN6WH
>
> Glory be to God! I failed absolutely!
>
> No, no NO! What I said was: Do NOT trust your neighbor
> with your Internet connection. He is not as concerned with
> keeping you out of prison as you would want him to be if
> you are a freedom-loving soul. His misdeeds (or the
> misdeeds of people who have access to his computer,
> connected wirelessly to your 802.11 Internet connection)
> will be blamed on you. He does the deed -- you get the
> beating.
>
> If there is no life without risk, go down to the packing
> plant and stick your dick in the pickle slicer. Maybe
> nothing will happen.
>
> ;-)
> "Sal"
> (KD6VKW, a Lowland Ham -- 458 ft AMSL and hoping for not
> very much sea level rise)
>
>
>

This thread's gone to the Natzi's of Hitler. WOOOOOPS there
goes this thread .

--
May You reep the poverrty You have Voted for.

1072. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 16:23:57 UTC
From: walt <walt@w2du.com>
Message-ID: <4f432528-e44a-4f4b-b7e6-f96e68e20741@s9g2000yqm.googlegroups.com>
Source record: 4973

On May 11, 10:57 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 11 mayo, 02:05, walt <w...@w2du.com> wrote:
>
>
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> > On May 10, 7:28 pm, Richard Fry <r...@adams.net> wrote:
>
> > > On May 10, 5:48 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > > > The transmission line is bounded at either end by identical mismatches
> > > > in conjugation. There is a "ringing" in the line, which at only one
> > > > end there is dissipation (neglecting loss and damage to the tube for
> > > > exceeding maximum tolerances, of course).
>
> > > If, as you have posted, dissipation occurs only at one end of the
> > > transmission line -- which presumably for the most useful benefit
> > > would be at the end of the line opposite the source, e.g., the load --
> > > and the incident power generated and delivered to that line by the
> > > final r-f stage in the transmitter is a constant, then how could
> > > "damage to the tube" occur?
>
> > > Just to note that as a field engineer for RCA Broadcast for many years
> > > I have had to troubleshoot and repair failures that occurred in
> > > transmission lines, transmitters, and output networks that resulted
> > > from reflections -- either from within the transmission line alone, or
> > > together with the load connected at its far end.
>
> > > RF
>
> > Yes Richard, I'm familiar with your work at RCA Broadcast Div.
> > However, in my posts I'm concerned only with tube rigs used in the
> > Amateur Service. In these rigs reflected power doesn't cause
> > overheating, or other damage to the tubes.
>
> To Walt: (Steady state) Load conditions can be specified in many forms
> (complex impedance, complex reflection coefficient, VSWR with phase,
> etc), but depending on the actual integral of the Vp*Ip product, the
> plate's dissipation may decrease or increase (due to a load change).

>
> So changing the load (without retuning as you mentioned below) may put
> your tubes at risk. Your qualification below seems to contradict your
> statement above.
>
> > But I'll qualify that
> > statement--if the pi-network is originally resonated into, say, a
> > dummy load, and is then switched to a mismatched line without
> > retuning, the reactance appearing at the input of the mismatched line
> > detunes the network and the result is the same is if the network was
> > left off resonance initially. As you well know, a mis-tuned pi-network
> > results in excessive plate current, which, if high enough will damage
> > the tube. Consequently, it's the mis-tuning that causes the damage,
> > not the reflections per se.
>
> > Incidentally Richard, I was also an electrical engineer with RCA, from
> > 1949 thru 1980, first at the RCA Labs in Princeton and beginning in
> > 1958 with Astro.
>
> > Walt
>
> Wim
> PA3DJSwww.tetech.nl

To Richard C.: It seems to me that you're overlooking the fact that
the source resistance appearing
at the output terminals of the pi-network is non-dissipative, and thus
cannot absorb the energy in the reflected wave incident on it. The
resistance is E/I and therefore non-dissipative, has a real value and
is thus a part of the conjugation. The result is total re-reflection,
no transfer of energy into the amp. I thought I'd made this very clear
over the years.

To Richard F. My humble apology for my moronic error. My bad!!! I
can't believe I was so stupid as to not know where the 0.888889 came
from. Thanks for spelling it out for me. I got totally sidetracked
with the 100/111,11 = 0.90, and didn't see any farther.

Wim: I'm working on your response--it's finally beginning to make
sense--gimme a few more minutes.

Walt

1073. Re: CIA Official Reveals Demon Mr. Bush Knew No WMDs and LIED to Kill America

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 16:34:25 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EE275BBCE622notnowneverorg@127.0.0.1>
Source record: 4974
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.scanner

Your Plonked

1074. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 18:40:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8b795edc-cc63-4e29-a37e-477466777612@d26g2000prn.googlegroups.com>
Source record: 4975

Not replying to anyone in particular - Because I can post graphics
directly to QRZ, I have started a thread on the antenna forum at:

http://forums.qrz.com/showthread.php?296735-Pi-Net-Tuner-Brainteaser

It is my contention that reflections are eliminated by a Z0-match
which, in a tuner system, occurs at the *input* to the tuner.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1075. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 20:09:48 UTC
From: walt <walt@w2du.com>
Message-ID: <e6b38ec5-8baf-4bb6-bc7c-d9a8585182f8@s41g2000prb.googlegroups.com>
Source record: 4976

On May 11, 2:40 pm, Cecil Moore <w5...@hotmail.com> wrote:
> Not replying to anyone in particular - Because I can post graphics
> directly to QRZ, I have started a thread on the antenna forum at:
>
> http://forums.qrz.com/showthread.php?296735-Pi-Net-Tuner-Brainteaser
>
> It is my contention that reflections are eliminated by a Z0-match
> which, in a tuner system, occurs at the *input* to the tuner.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Cecil, you are correct!!!

Walt

1076. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 21:38:44 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iqf3g1uae1@dont-email.me>
Source record: 4977

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:iqbo2pebg1@news.jpl.nasa.gov...
> On 5/9/2011 11:00 AM, Tom Rutherford wrote:
>> <nm5k@wt.net> wrote in message
>> news:9d937043-6175-4e25-b89b-8dbcfd643b6f@glegroupsg2000goo.googlegroups.com...
>>> On Sunday, May 8, 2011 12:22:46 PM UTC-5, Tom Rutherford wrote:
>>>
>>>> The Yagi
>>>> would be nice, but running out on the balcony and moving it around all
>>>> the
>>>> time isn't practical. That's why I wanted something fairly
>>>> omnidirectional,
>>>> as much of "omni" as I can get, anyway. Since I remember what my
>>>> communications instructor told us about loops (they radiate equally
>>>> poorly
>>>> in all directions<g>), I figured this would be the most practical
>>>> solution
>>>> for what I want to do.
>>>
>>> Another possible idea could be the turnstile.
>>> That is horizontal, pretty omni, and pretty simple
>>> to build. Just a set of crossed dipoles fed 90 degrees
>>> out of phase. I think you would have less gain vs
>>> the broadside of a dipole, but you wouldn't have the
>>> nulls off the ends.
>>
>> That's another good idea. Thanks. Are the elements of a turnstile
>> spaced a
>> quarter wavelength apart, or are they pretty much on top of each other?
>>
>
> On top of each other. Fed 90 degrees apart.
>
> But I'd try a dipole first.

Gotcha. Yeah, a dipole would be simple enough.

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1077. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-11 23:00:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r15ms69pjbebdatnla31bopccmtscfreop@4ax.com>
Source record: 4978

On Wed, 11 May 2011 05:19:47 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>It may be possible to get the performance of the Lazy H antenna up by
>matching it at the antenna with a 1/4 matching stub, but clearly
>running 100 feet of 450 ohm ladder line from the center of the Lazy H
>back to an antenna tuner does not work very well on 10 meters. I
>took the Lazy H down yesterday and put up the previously mentioned
>extended double zepp using the same support ropes, and the extended
>double zepp out performed the dipole on every A/B comparison in it's
>preferred direction.

Hi Michael,

And for the double zepp, that merely confirms what is reasonable. By
virtue of its length and phase relationships, its investment above and
beyond the dipole tracks with gain.

However, matching stubs are not going to discover the missing gain for
the Lazy H.

As for 100 feet of 450 Ohm ladder line - nothing wrong with that, even
at 10 meters.

73's
Richard Clark, KB7QHC

1078. Re: CIA Official Reveals Demon Mr. Bush Knew No WMDs and LIED to Kill America

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 04:40:12 UTC
From: Barry OGrady <atheist@hotmail.com.au>
Message-ID: <25pms618uove7gd3gra03vtkmmmkks7bm3@4ax.com>
Source record: 4979

On Wed, 11 May 2011 11:34:25 -0500, moronsbegone <NoThanx@never.org>
wrote:

>Your Plonked

His plonked is what?

1079. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 05:04:46 UTC
From: nm5k@wt.net
Message-ID: <b7c95b75-5ed6-4970-9111-1fd8dbffc28d@glegroupsg2000goo.googlegroups.com>
Source record: 4980

On Tuesday, May 10, 2011 8:13:36 AM UTC-5, Michael wrote:

>
> Has anyone seen real world gain with the Lazy H on 10 meters verses a
> dipole? My experience shows it consistently lags behind the 1/2 wave
> dipole even through the Lazy H is 10+ feet higher than the dipole.
>
> I also built an extended double zepp for 10 meters with a 450 matching
> section to a 1:1 balun and then to coax, and the extended double zepp
> consistently out performs the dipole in it's preferred direction.

I've never tried one, so can't say from experience.
But that you have to use extreme tuner settings to match
the system tells me you may be seeing a good amount of loss.
And then you have the issues Richard mentioned on top of that.
The coax fed dipole is very efficient. Very little system loss
involved. So even if it had less directional gain, it's possible
that gain could be offset by matching losses. Or even driven
negative if the loss was extreme. :(
Compare the two on a dead frequency just listening to noise.
If the H seems real quiet compared to the dipole, I would
suspect excess tuner loss. If they are about the same, may be
other issues.

The only phased dipoles I ever ran were parallel horizontal
dipoles. I would steer the pattern by changing the phasing.
Usually by adding lengths of feed line. It worked pretty well.
That was on 40m.. But as mentioned, there is only so much
blood that can be squeezed from two elements, even if configured
in an optimum manner, say as with a yagi or whatever. :/

1080. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 14:05:36 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <6c848b2d-3220-4d06-a32e-065084ce7441@f9g2000vbz.googlegroups.com>
Source record: 4981

On May 12, 1:04 am, n...@wt.net wrote:
> On Tuesday, May 10, 2011 8:13:36 AM UTC-5, Michael wrote:
>
> > Has anyone seen real world gain with the Lazy H on 10 meters verses a
> > dipole? My experience shows it consistently lags behind the 1/2 wave
> > dipole even through the Lazy H is 10+ feet higher than the dipole.
>
> > I also built an extended double zepp for 10 meters with a 450 matching
> > section to a 1:1 balun and then to coax, and the extended double zepp
> > consistently out performs the dipole in it's preferred direction.
>
> I've never tried one, so can't say from experience.
> But that you have to use extreme tuner settings to match
> the system tells me you may be seeing a good amount of loss.
> And then you have the issues Richard mentioned on top of that.
> The coax fed dipole is very efficient. Very little system loss
> involved. So even if it had less directional gain, it's possible
> that gain could be offset by matching losses. Or even driven
> negative if the loss was extreme. :(
> Compare the two on a dead frequency just listening to noise.
> If the H seems real quiet compared to the dipole, I would
> suspect excess tuner loss. If they are about the same, may be
> other issues.
>
> The only phased dipoles I ever ran were parallel horizontal
> dipoles. I would steer the pattern by changing the phasing.
> Usually by adding lengths of feed line. It worked pretty well.
> That was on 40m.. But as mentioned, there is only so much
> blood that can be squeezed from two elements, even if configured
> in an optimum manner, say as with a yagi or whatever. :/

I rebuilt the center fed Lazy H twice with different pieces of 450
ladder line, and I installed it in two different locations. I used two
different antenna tuners. I built it exactly as specified in the ARRL
antenna handbook. Both times the antenna exhibited a high SWR and
poor performance compared to a mono band dipole for the same frequency
and at about the same height. I suspect the underling problem may be
too many arm chair antenna experts plugging their designs in to
computer antenna modeling software, and not enough people actually
going out in the backyard and building the antenna and comparing it's
performance to a real world dipole for the same frequency. There are
many web pages touting the supposed gain of the Lazy H with EZNEC
plots posted as supporting evidence, but real world performance has

shown that it is consistently out performed by a plain old dipole. I was able to make contacts with the Lazy H, and I did get some good reports with it. However, when I switched to the plain old wire dipole the dipole was consistently the stronger performer. I have not tried the end fed Lazy H design with a 180 degree twist and the 1/4 wave matching stub yet.

Michael Rawls
KS4HY

1081. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 16:42:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f82os65rdrrp34afrut6vvprva7naog11l@4ax.com>
Source record: 4982

On Thu, 12 May 2011 07:05:36 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>I suspect the underling problem may be
>too many arm chair antenna experts plugging their designs in to
>computer antenna modeling software, and not enough people actually
>going out in the backyard and building the antenna and comparing it's
>performance to a real world dipole for the same frequency.

Hi Michael,

All very true, but be careful of the conclusions you thinks this leads
you to. For instance:

>There are
>many web pages touting the supposed gain of the Lazy H with EZNEC
>plots posted as supporting evidence, but real world performance has
>shown that it is consistently out performed by a plain old dipole.

The Lazy H, in professional installations known as Sterba Curtains,
are THE antenna of the big gun Shortwave Broadcasters. Engineers,
stations, and their backers looking at field data do not erect costly
antennas without good judgment. In the past, we have had contributors
here who have designed for these big guns.

Now, as to what you see as "evidence" on the Web in the form of EZNEC
software reports (something I've been using for nigh-on 20 years) has
to be looked at in the details, and the details that are significant:
1. The presence of ground
2. The quality of ground
3. The antenna elevation above ground
4. The presence of conductor loss
5. Transmission line specification
6. Transmission line drive
7. The load Z
8. The system gain (or loss)
at a minimum. That is a lot of detail to hold in the mind while
trying to compare two antennas, much less 3, 4, or 5.

One of the glaring mistakes between the outcome to this and "reality"
(and this undoubtedly conforms to your experience) is that the
placement of the source (transmitter) in software is vastly different
than the placement of the transmitter (source) in physical reality.

For instance, the twist in the line between elements is to enforce a necessary phase relationship so that you can fee it at the bottom. Otherwise you can go with a non-twist if you feed it in the middle. The design varies in particulars there. So what? You can feed either a twisted connection, or a non-twisted section in the middle; BUT for the second version, the line back to the transmitter MUST BE dressed AWAY from the middle of the interconnecting line. Proximity will confound everything. Proximity for this second choice is almost guaranteed in a casual installation where an EZNEC "schematic" of the system offers only a blob called "source" in a spot of convenience that does not exist in reality.

So, the long and short of it is:
Do not feed in the middle of the interconnecting line.
Observe proper phasing requirements.

You can perform your own EZNEC analysis using the free version. The benefit of this is you can control all the variables, adjust items 1 through 6 in the list above, and you can replicate your experience. Doing this will also reveal what you need to do to optimize your antenna.

73's
Richard Clark, KB7QHC

1082. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 18:30:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iqh8uh$6l3$2@news.jpl.nasa.gov>
Source record: 4984

On 5/10/2011 11:42 AM, Tom Rutherford wrote:
> "Jim Lux"<james.p.lux@jpl.nasa.gov> wrote in message
> news:iq95pvjsk1@news.jpl.nasa.gov...
>> On 5/8/2011 10:22 AM, Tom Rutherford wrote:
>>> <nm5k@wt.net> wrote in message
>>> news:3a19ea84-0424-4d5c-b21c-958224086da9@glegroupsg2000goo.googlegroups.com...
>>>> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&toggl
e=1&cop=mss&ei=UTF8&p=2%20meter%20halo
>>>>
>>>> Myself I'd probably stick a small 3 el yagi on that
>>>> lamp mast if you had room..
>>>> Good bit more punch for SSB, and being things are
>>>> reciprocal, it will improve reception. If you squeeze
>>>> an extra 6 db from the antenna system, that's like
>>>> taking 50 watts and turning it to 200.
>>>> Best deal on an "amp" you will find.. :)
>>>> I'm not sure the gain using a halo, but I suspect
>>>> it's probably pretty close to a dipole. Maybe a tad
>>>> more, but it's not going to be a drastic difference.
>>>> A loop has some gain broadside vs a dipole, but I'm
>>>> not sure what you get running one on it's side.
>>>
>>> Thanks much. I'll have a look at that link and see what's what. The
>>> Yagi
>>> would be nice, but running out on the balcony and moving it around all
>>> the
>>> time isn't practical. That's why I wanted something fairly
>>> omnidirectional,
>>> as much of "omni" as I can get, anyway. Since I remember what my
>>> communications instructor told us about loops (they radiate equally
>>> poorly
>>> in all directions<g>), I figured this would be the most practical
>>> solution
>>> for what I want to do.
>>>
>>
>>
>> A horizontal dipole in front of a screen or single reflector would have a
>> "pattern" that is 100+ degrees wide.
>
> How far behind the driven element should the reflector be? A quarter
> wavelength?

You got it.

>
>> Stack a couple vertically, say a meter apart, and you squeeze the vertical
>> beam width significantly, which is probably what you want.
>
> Hmmm...! :-) That might be interesting, too. Feed them 90ï¿½ out of phase?

Feed them in phase.

>
>> What you *might* want to do is look for a low gain TV antenna for the
>> upper VHF bands (e.g. Channel 7-13): one of those two bay things with a
>> bowtie in front of a screen.
>
> Think I'd need some kind of a balun to get the impedences to match?

Maybe.. depends on the antenna.

But consider that they might actually have a 75 ohm impedance, which
will be close to what you need.

1083. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 18:38:38 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <37fe943f-c1e1-44ef-9e4f-6e480ecf0e40@d27g2000vbz.googlegroups.com>
Source record: 4983

On May 12, 12:42 pm, Richard Clark <kb7...@comcast.net> wrote:
> So, the long and short of it is:
> Do not feed in the middle of the interconnecting line.
> Observe proper phasing requirements.
>
> You can perform your own EZNEC analysis using the free version. The
> benefit of this is you can control all the variables, adjust items 1
> through 6 in the list above, and you can replicate your experience.
> Doing this will also reveal what you need to do to optimize your
> antenna.
>
> 73's
> Richard Clark, KB7QHC

The W8JI web page goes to considerable length to bash the end fed Lazy H with the twist, but since the real world performance of the center fed Lazy H is less than stellar I'll have to give it a try.

There is one thing the center fed Lazy H did better than the dipole and the extended double zepp. When I applied RF to the center fed Lazy H four of my outside motion sensor flood lights would come on. I guess if I wanted to go outside at night I could just switch to the Lazy H, key the mic, and save myself a trip to the light switch. ha ha

W8JI bashing the end fed Lazy H with the twist
http://www.w8ji.com/curtain%20sterba%20USIA%20array.htm#Lazy_H_Antenna

-Michael

1084. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 20:29:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4rfos65bv1agbd7ruv31bpqad7v0rfg3a9@4ax.com>
Source record: 4985

On Thu, 12 May 2011 11:38:38 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>The W8JI web page goes to considerable length to bash the end fed Lazy
>H with the twist, but since the real world performance of the center
>fed Lazy H is less than stellar I'll have to give it a try.

Hi Michael,

As I offered, feed at the bottom, and observe proper phase
relationships. This page you reference also makes a note of those
relationships being improper will point your radiation straight up,
and straight down. Go figure - this is quickly revealed by EZNEC.

> When I applied RF to the center fed
>Lazy H four of my outside motion sensor flood lights would come on.

This is 100% rock-solid proof of Common Mode current on your
transmission line. This condition will cause extreme grief in trying
to match your transmitter to. It also skews the radiation/reception
lobes BIG-TIME.

Does this sound familiar?

The problem probably comes from your tuner's BalUn having a connection
to earth ground.

Solution to that (for all "balanced," horizontal antennas):
1. Use Coax.
2. Put a choke style (W2DU) BalUn at the antenna (ask about this).
3. Add a second choke a quarter wave away from the feed point.
OR
1. Fix the ground path inside your tuner (not as simple as it may
seem, unfortunately - in fact it can be an Herculean task - it may not
even be doable).
2. Obtain (purchase or build) the proper tuner.

Your antenna will then tune with vastly more grace, and you may even
find it performs much like common sense would expect. As I said
earlier, there is a world of experiential details that can kill an
EZNEC model's prediction - and it isn't the fault of EZNEC.

73's
Richard Clark, KB7QHC

1085. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-12 20:30:51 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <c1d7d229-3816-4c89-8978-9def9f87f824@q20g2000vbx.googlegroups.com>
Source record: 4986

On May 7, 6:15 pm, "Tom Rutherford" <t...@nospam.invalid> wrote:
> Hi, All.
>
> Brand new to the newsgroup, here, and even though I did the old "Find"
> routine, I couldn't find what I need.
>
> Does anyone know where I can get instructions (preferably cookbook, but if
> they come with formulas, I can deal with that, too) for building a 2m SSB
> horizontal loop? I live in an apartment, which is pretty much a Faraday
> cage, but I get out pretty well from my balcony, at least to the east(ish)
> of the building. I have a discone out there right now, clamped to the floor
> stand of an old oscillating fan that it used to be attached to. :-) I have
> a similar portion of a floor lamp that I want to mount the loop onto. I
> need something that will cover at least the 180º that my discone can radiate
> in, as well as it does. Since 2m SSB is typically horizontal, the discone
> doesn't do too well. Any help will be greatly appreciated.
>
> --
> -- 73 DE Tom Rutherford, N8EUJ, Burton, MI
> "She said it was either her or the ham radio. Over."

I would go with a 2M QUAD, Very easy to build cookbook style. on site
from scrounged materials. Ive used one from an apartment shooting
through a balcony door. PVC mast was made from a couple of scrap
pieces I got from the handy man. Pipe was selected so that one would
slide inside the other. Apply padding to ends to protect ceiling and
floor Think I wedged a piece of cardboard to lock the slip joint.
Inovate as required. The quad can be asily put together with out
benifit of test equipment and expected to function reasonably well
without additinal tweaking. However a knockdown Yagi can be buit ahed
of time and the elements stored inside the boom. Both are very handy.

Jimmie

1086. Re: CIA Official Reveals Demon Mr. Bush Knew No WMDs and LIED to Kill America

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 00:48:43 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnisovvb.1c3g.knock_yourself_out@shell.config.com>
Source record: 4987

```
On Thu, 12 May 2011 14:40:12 +1000, Barry OGrady wrote:
> On Wed, 11 May 2011 11:34:25 -0500, moronsbegone <NoThanx@never.org>
> wrote:
>
>>Your Plonked
>
> His plonked is what?

heh... http://goo.gl/FFtI
```

1087. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 15:20:48 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iqjngf$1ak$1@dont-email.me>
Source record: 4988

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:iqh8uh$6l3$2@news.jpl.nasa.gov...
> On 5/10/2011 11:42 AM, Tom Rutherford wrote:
>> "Jim Lux"<james.p.lux@jpl.nasa.gov> wrote in message
>> news:iq95pvjsk1@news.jpl.nasa.gov...
>>> On 5/8/2011 10:22 AM, Tom Rutherford wrote:
>>>> <nm5k@wt.net> wrote in message
>>>> news:3a19ea84-0424-4d5c-b21c-958224086da9@glegroupsg2000goo.googlegroups.com...
>>>>> http://search.yahoo.com/search;_ylt=AqhrHXDwm8LXka_Ldl9DrsqbvZx4?fr=yfp-t-701-s&togg
le=1&cop=mss&ei=UTF8&p=2%20meter%20halo
>>>>>
>>>>> Myself I'd probably stick a small 3 el yagi on that
>>>>> lamp mast if you had room..
>>>>> Good bit more punch for SSB, and being things are
>>>>> reciprocal, it will improve reception. If you squeeze
>>>>> an extra 6 db from the antenna system, that's like
>>>>> taking 50 watts and turning it to 200.
>>>>> Best deal on an "amp" you will find.. :)
>>>>> I'm not sure the gain using a halo, but I suspect
>>>>> it's probably pretty close to a dipole. Maybe a tad
>>>>> more, but it's not going to be a drastic difference.
>>>>> A loop has some gain broadside vs a dipole, but I'm
>>>>> not sure what you get running one on it's side.
>>>>
>>>> Thanks much. I'll have a look at that link and see what's what. The
>>>> Yagi
>>>> would be nice, but running out on the balcony and moving it around all
>>>> the
>>>> time isn't practical. That's why I wanted something fairly
>>>> omnidirectional,
>>>> as much of "omni" as I can get, anyway. Since I remember what my
>>>> communications instructor told us about loops (they radiate equally
>>>> poorly
>>>> in all directions<g>), I figured this would be the most practical
>>>> solution
>>>> for what I want to do.
>>>>
>>>
>>>
>>> A horizontal dipole in front of a screen or single reflector would have
>>> a
>>> "pattern" that is 100+ degrees wide.
>>
>> How far behind the driven element should the reflector be? A quarter

>> wavelength?
>
> You got it.

Peachy. Nice, short boom.

>>> Stack a couple vertically, say a meter apart, and you squeeze the
>>> vertical
>>> beam width significantly, which is probably what you want.
>>
>> Hmmm...! :-) That might be interesting, too. Feed them 90° out of
>> phase?
>
> Feed them in phase.

Ah! Okay.

>>> What you *might* want to do is look for a low gain TV antenna for the
>>> upper VHF bands (e.g. Channel 7-13): one of those two bay things with a
>>> bowtie in front of a screen.
>>
>> Think I'd need some kind of a balun to get the impedences to match?
>
> Maybe.. depends on the antenna.
>
> But consider that they might actually have a 75 ohm impedance, which will
> be close to what you need.

I should probably invest in an antenna matcher. Think I've got one for 11m,
but that wouldn't do me much good. :-)

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1088. Re: Horizontal Loop for 2m SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 15:24:15 UTC
From: Tom Rutherford <tom@nospam.invalid>
Message-ID: <iqjngg$1ak$2@dont-email.me>
Source record: 4989

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:c1d7d229-3816-4c89-8978-9def9f87f824@q20g2000vbx.googlegroups.com...
On May 7, 6:15 pm, "Tom Rutherford" <t...@nospam.invalid> wrote:
> Hi, All.
>
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> routine, I couldn't find what I need.
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> Does anyone know where I can get instructions (preferably cookbook, but if
> they come with formulas, I can deal with that, too) for building a 2m SSB
> horizontal loop? I live in an apartment, which is pretty much a Faraday
> cage, but I get out pretty well from my balcony, at least to the east(ish)
> of the building. I have a discone out there right now, clamped to the
> floor
> stand of an old oscillating fan that it used to be attached to. :-) I have
> a similar portion of a floor lamp that I want to mount the loop onto. I
> need something that will cover at least the 180° that my discone can
> radiate
> in, as well as it does. Since 2m SSB is typically horizontal, the discone
> doesn't do too well. Any help will be greatly appreciated.
>
> --
> -- 73 DE Tom Rutherford, N8EUJ, Burton, MI
> "She said it was either her or the ham radio. Over."

I would go with a 2M QUAD, Very easy to build cookbook style. on site
from scrounged materials. Ive used one from an apartment shooting
through a balcony door. PVC mast was made from a couple of scrap
pieces I got from the handy man. Pipe was selected so that one would
slide inside the other. Apply padding to ends to protect ceiling and
floor Think I wedged a piece of cardboard to lock the slip joint.
Inovate as required. The quad can be asily put together with out
benifit of test equipment and expected to function reasonably well
without additinal tweaking. However a knockdown Yagi can be buit ahed
of time and the elements stored inside the boom. Both are very handy.

Jimmie

Thanks, Jimmie. I was wondering about the quad, what kind of a pattern it
put out, etc. Gotta hit Google for some research.

--
-- 73 DE Tom Rutherford, N8EUJ, Burton, MI
"She said it was either her or the ham radio. Over."

1089. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 20:09:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f6a987aa-03f6-4a10-8b97-bc30936287fc@u26g2000vby.googlegroups.com>
Source record: 4990

On May 11, 3:09 pm, walt <w...@w2du.com> wrote:
> Cecil, you are correct!!!

Thanks Walt, it would be interesting to see what else about which I am correct. W7EL has a food-for-thought publication with one section about reflections from the source. His source has a 50 ohm source impedance, by design, so any dynamic load pulling experiment should result in zero reflections from the source. Question is, does it?

http://eznec.com/misc/Food_for_thought.pdf

The "forward and reverse power section" is at the bottom of the page. Using the dynamic load pulling method, do the results always indicate 50 ohms for the source impedance no matter what is the load and/or the transmission line length? If not, the method yields invalid results.

IMO, it is a gross error to presume that all redistribution of energy is a result of reflections. In W7EL's example, there are no reflections from the source yet it is obvious that energy is being redistributed from the source back toward the load in some cases but not in other cases. IMO, destructive/constructive interference must be taken into account in order to explain the results. Yet, no one except yours truly has even mentioned interference effects as a method of redistributing energy.

Anyone interested in understanding the role of interference at impedance discontinuities in transmission lines is welcome to read my article at:

http://www.w5dxp.com/energy.htm
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1090. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 21:39:20 UTC
From: walt <walt@w2du.com>
Message-ID: <a8cedb14-e1ad-4dc7-8164-298f689ab541@d1g2000yqm.googlegroups.com>
Source record: 4991

On May 13, 4:09 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 11, 3:09 pm, walt <w...@w2du.com> wrote:
>
> > Cecil, you are correct!!!
>
> Thanks Walt, it would be interesting to see what else about which I am
> correct. W7EL has a food-for-thought publication with one section
> about reflections from the source. His source has a 50 ohm source
> impedance, by design, so any dynamic load pulling experiment should
> result in zero reflections from the source. Question is, does it?
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> http://eznec.com/misc/Food_for_thought.pdf
>
> The "forward and reverse power section" is at the bottom of the page.
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> 50 ohms for the source impedance no matter what is the load and/or the
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>
> IMO, it is a gross error to presume that all redistribution of energy
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> not in other cases. IMO, destructive/constructive interference must be
> taken into account in order to explain the results. Yet, no one except
> yours truly has even mentioned interference effects as a method of
> redistributing energy.
>
> Anyone interested in understanding the role of interference at
> impedance discontinuities in transmission lines is welcome to read my
> article at:
>
> http://www.w5dxp.com/energy.htm
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Right on, Cecil. The article you URL'ed is the most clear and accurate paraphrasing of my presentation of the subject in 'Reflections'. Nowhere else is the subject clearly defined concerning destructive and constructive interference in relation to impedance matching and 100% re-reflection. I hope RF engineers everywhere can realize that optics and RF are indeed using the same principles of electromagnetics, and therefore follow exactly the same rules.

However, I would like for you to add one more reference to your article, an article I published in QEX that proves Steve Best's QEX three articles wrong. It appeared in the Jul/Aug 2004 issue, entitled, "A tutorial Dispelling Certain Misconceptions Concerning Wave Interference In Impedance Matching."

Let me know here whether you have a copy of my QEX article. If not, I'll email you a copy.

Walt, W2DU

If anyone else on this thread would like a copy of my QEX article please let me know by email. My email address is shown above.

1091. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 21:44:00 UTC
From: walt <walt@w2du.com>
Message-ID: <9e51d103-966b-44bd-a075-cffdc1d735aa@c1g2000yqe.googlegroups.com>
Source record: 4992

On May 13, 5:39 pm, walt <w...@w2du.com> wrote:
> On May 13, 4:09 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
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>
>
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>
> > On May 11, 3:09 pm, walt <w...@w2du.com> wrote:
>
> > > Cecil, you are correct!!!
>
> > Thanks Walt, it would be interesting to see what else about which I am
> > correct. W7EL has a food-for-thought publication with one section
> > about reflections from the source. His source has a 50 ohm source
> > impedance, by design, so any dynamic load pulling experiment should
> > result in zero reflections from the source. Question is, does it?
>
> >http://eznec.com/misc/Food_for_thought.pdf
>
> > The "forward and reverse power section" is at the bottom of the page.
> > Using the dynamic load pulling method, do the results always indicate
> > 50 ohms for the source impedance no matter what is the load and/or the
> > transmission line length? If not, the method yields invalid results.
>
> > IMO, it is a gross error to presume that all redistribution of energy
> > is a result of reflections. In W7EL's example, there are no
> > reflections from the source yet it is obvious that energy is being
> > redistributed from the source back toward the load in some cases but
> > not in other cases. IMO, destructive/constructive interference must be
> > taken into account in order to explain the results. Yet, no one except
> > yours truly has even mentioned interference effects as a method of
> > redistributing energy.
>
> > Anyone interested in understanding the role of interference at
> > impedance discontinuities in transmission lines is welcome to read my
> > article at:
>
> >http://www.w5dxp.com/energy.htm
> > --
> > 73, Cecil, w5dxp.com

> > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> Right on, Cecil. The article you URL'ed is the most clear and accurate
> paraphrasing of my presentation of the subject in 'Reflections'.
> Nowhere else is the subject clearly defined concerning destructive and
> constructive interference in relation to impedance matching and 100%
> re-reflection. I hope RF engineers everywhere can realize that optics
> and RF are indeed using the same principles of electromagnetics, and
> therefore follow exactly the same rules.
>
> However, I would like for you to add one more reference to your
> article, an article I published in QEX that proves Steve Best's QEX
> three articles wrong. It appeared in the Jul/Aug 2004 issue, entitled,
> "A tutorial Dispelling Certain Misconceptions Concerning Wave
> Interference In Impedance Matching."
>
> Let me know here whether you have a copy of my QEX article. If not,
> I'll email you a copy.
>
> Walt, W2DU
>
> If anyone else on this thread would like a copy of my QEX article
> please let me know by email. My email address is shown above.

Sorry guys, my error, my email address is walt@w2du.com.

Walt

1092. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 22:51:08 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <84652c31-d055-45b4-9b7d-b3853b8ce87c@j23g2000yqc.googlegroups.com>
Source record: 4993

On 13 mayo, 22:09, Cecil Moore <w5...@hotmail.com> wrote:
> On May 11, 3:09 pm, walt <w...@w2du.com> wrote:
>
> > Cecil, you are correct!!!
>
> Thanks Walt, it would be interesting to see what else about which I am
> correct. W7EL has a food-for-thought publication with one section
> about reflections from the source. His source has a 50 ohm source
> impedance, by design, so any dynamic load pulling experiment should
> result in zero reflections from the source. Question is, does it?
>
> http://eznec.com/misc/Food_for_thought.pdf
>
> The "forward and reverse power section" is at the bottom of the page.
> Using the dynamic load pulling method, do the results always indicate
> 50 ohms for the source impedance no matter what is the load and/or the
> transmission line length? If not, the method yields invalid results.
>
> IMO, it is a gross error to presume that all redistribution of energy
> is a result of reflections. In W7EL's example, there are no
> reflections from the source yet it is obvious that energy is being
> redistributed from the source back toward the load in some cases but
> not in other cases. IMO, destructive/constructive interference must be
> taken into account in order to explain the results. Yet, no one except
> yours truly has even mentioned interference effects as a method of
> redistributing energy.
>
> Anyone interested in understanding the role of interference at
> impedance discontinuities in transmission lines is welcome to read my
> article at:
>
> http://www.w5dxp.com/energy.htm
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

When a source behaves like a 50 Ohms source, it will not rereflect the
reflected power back to the load. In other words the forward power
generated by the source will not change when changing the load. The
reflected power that is absorbed by the source may result in increase
or reduction of power dissipation of the active device. It all depends
on the change of the integral of V*I (for the active device).

With regards to load pulling, output impedance of an amplifier may change depending on the rate of change of the load. As I mentioned earlier, manual load pulling may result in change of supply and bias voltage and current. Average Voltage and current have time to settle to the new load condition.

In case of load pulling where the load changes relatively fast, but well within the matching section's bandwidth (as is the case for the off-carrier signal injection method) supply and bias voltage change may be less due to decoupling capacitance.

In simulation this can easily be seen by applying a load step change and observe the envelope and phase response versus time. Of course this requires you to model your power supply and bias circuit correctly. You may see a slow step response that cannot be explained by the bandwidth of the matching network.

To walt:
I didn’t see your announced comment to my last post (regarding the forward/reverse power mathematics), did I missed it?

With kind regards,

Wim
PA3DJS
www.tetech.nl

1093. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 23:06:16 UTC
From: walt <walt@w2du.com>
Message-ID: <baf9a41d-3fae-48f6-91a8-01de1289b34a@j31g2000yqe.googlegroups.com>
Source record: 4994

On May 13, 6:51 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 13 mayo, 22:09, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
>
>
>
>
>
> > On May 11, 3:09 pm, walt <w...@w2du.com> wrote:
>
> > > Cecil, you are correct!!!
>
> > Thanks Walt, it would be interesting to see what else about which I am
> > correct. W7EL has a food-for-thought publication with one section
> > about reflections from the source. His source has a 50 ohm source
> > impedance, by design, so any dynamic load pulling experiment should
> > result in zero reflections from the source. Question is, does it?
>
> >http://eznec.com/misc/Food_for_thought.pdf
>
> > The "forward and reverse power section" is at the bottom of the page.
> > Using the dynamic load pulling method, do the results always indicate
> > 50 ohms for the source impedance no matter what is the load and/or the
> > transmission line length? If not, the method yields invalid results.
>
> > IMO, it is a gross error to presume that all redistribution of energy
> > is a result of reflections. In W7EL's example, there are no
> > reflections from the source yet it is obvious that energy is being
> > redistributed from the source back toward the load in some cases but
> > not in other cases. IMO, destructive/constructive interference must be
> > taken into account in order to explain the results. Yet, no one except
> > yours truly has even mentioned interference effects as a method of
> > redistributing energy.
>
> > Anyone interested in understanding the role of interference at
> > impedance discontinuities in transmission lines is welcome to read my
> > article at:
>
> >http://www.w5dxp.com/energy.htm
> > --
> > 73, Cecil, w5dxp.com

> > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> Hello Cecil,
>
> When a source behaves like a 50 Ohms source, it will not rereflect the
> reflected power back to the load. In other words the forward power
> generated by the source will not change when changing the load. The
> reflected power that is absorbed by the source may result in increase
> or reduction of power dissipation of the active device. It all depends
> on the change of the integral of V*I (for the active device).
>
> With regards to load pulling, output impedance of an amplifier may
> change depending on the rate of change of the load. As I mentioned
> earlier, manual load pulling may result in change of supply and bias
> voltage and current. Average Voltage and current have time to settle
> to the new load condition.
>
> In case of load pulling where the load changes relatively fast, but
> well within the matching section's bandwidth (as is the case for the
> off-carrier signal injection method) supply and bias voltage change
> may be less due to decoupling capacitance.
>
> In simulation this can easily be seen by applying a load step change
> and observe the envelope and phase response versus time. Of course
> this requires you to model your power supply and bias circuit
> correctly. You may see a slow step response that cannot be explained
> by the bandwidth of the matching network.
>
> To walt:
> I didn’t see your announced comment to my last post (regarding the
> forward/reverse power mathematics), did I missed it?
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

Hello Wim,

I hadn't yet given you my final understanding of it. I understand the
voltage divider action, but I don't yet understand the following quote
from you:

"When terminated according to the numbers above the socket ("100W
into
50 Ohms"), this results in 100W (Vout = 212.1*50/(50+100) = 70.7V,
just a voltage divider consisting of 100 Ohms and 50 Ohms)."

The portion I don't understand is the mathematical basis for:

"(Vout = 212.1*50/(50+100) = 70.7V,"

And Wim, on your last post above I agree that if the source is 50 ohms with a real resistor, as in the classical generator used in text books. However, are you not aware that the output resistance of the RF power amp is R = E/R that appears at the output. Since this R is non-dissipative it re-reflects all the reflected power. I have proved this to be true in the experiment I presented with the Kenwood TS-830S presentation that I'm sure you have a copy of.

Consequently, the RF power amp is not going to absorb the reflected power.

At this point my email server is down, but I'll forward a copy of my QEX article ASAP.

Walt

1094. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 23:07:00 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <0b1fda31-8c1f-49dc-a715-d083e23aecb0@22g2000prx.googlegroups.com>
Source record: 4995

On May 11, 4:21 am, Richard Fry <r...@adams.net> wrote:
> On May 10, 9:35 pm, walt <w...@w2du.com> wrote:
>
> >If you are so confident that the number is 88.8889%,
> > please derive the conditions that yield that number.
>
> Ã = R(load) - R(source) / R(load) + R(source)
>
> SWR = (1 + |Ã|) / (1 - |Ã|)
>
> Power Accepted by the Load = Incident Power * (1 - Ã^2)
>
> For a 50 ohm source connected to a 100 ohm load:
>
> Ã = (100 - 50) / (100 + 50) = 50 / 150 = 0.333333...
>
> SWR = (1 + 0.333333) / (1 - 0.333333) = 1.333333 / 0.666666 = 2:1
>
> Load Power = Incident Power * (1 - 0.333333^2) = Incident Power *
> 0.888889 (or 88.8889%)
>
> The answers are the same for a 50 ohm source with a 25 ohm load.
>
> RF

Richard F is, of course, correct. You can just as well do it for DC:
2V O.C., 1 ohm source will deliver 1A, 1V, 1 watt to a 1 ohm load.
For a 2 ohm load, the current is 2/3 amp; the power is 8/9 watt. For
an 0.5 ohm load, the current is 4/3 amp; the power is 8/9 watt. It's
not terribly difficult to show, for the AC case, that the same is true
for any 2:1 load, regardless of phase angle--trivial, in fact, if you
accept that the SWR along a lossless TEM line is constant.

Cheers,
Tom

1095. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 23:10:45 UTC
From: walt <walt@w2du.com>
Message-ID: <b9437266-6cc9-42ec-81a8-eb994bb6bbd1@g3g2000vbl.googlegroups.com>
Source record: 4996

On May 13, 7:07 pm, K7ITM <k7...@msn.com> wrote:
> On May 11, 4:21 am, Richard Fry <r...@adams.net> wrote:
>
>
>
>
>
>
>
>
>
>
> > On May 10, 9:35 pm, walt <w...@w2du.com> wrote:
>
> > >If you are so confident that the number is 88.8889%,
> > > please derive the conditions that yield that number.
>
> > Ã = R(load) - R(source) / R(load) + R(source)
>
> > SWR = (1 + |Ã|) / (1 - |Ã|)
>
> > Power Accepted by the Load = Incident Power * (1 - Ã^2)
>
> > For a 50 ohm source connected to a 100 ohm load:
>
> > Ã = (100 - 50) / (100 + 50) = 50 / 150 = 0.333333...
>
> > SWR = (1 + 0.333333) / (1 - 0.333333) = 1.333333 / 0.666666 = 2:1
>
> > Load Power = Incident Power * (1 - 0.333333^2) = Incident Power *
> > 0.888889 (or 88.8889%)
>
> > The answers are the same for a 50 ohm source with a 25 ohm load.
>
> > RF
>
> Richard F is, of course, correct. You can just as well do it for DC:
> 2V O.C., 1 ohm source will deliver 1A, 1V, 1 watt to a 1 ohm load.
> For a 2 ohm load, the current is 2/3 amp; the power is 8/9 watt. For
> an 0.5 ohm load, the current is 4/3 amp; the power is 8/9 watt. It's
> not terribly difficult to show, for the AC case, that the same is true
> for any 2:1 load, regardless of phase angle--trivial, in fact, if you
> accept that the SWR along a lossless TEM line is constant.
>
> Cheers,

> Tom

My apology, Wim, the equation I quoted in my last post is incorrect--I mean't to say R = E/I, not E/R. Sorry.

Walt

1096. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 23:28:52 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <590dfeb3-916d-48e2-934e-6a11d6a1791a@h12g2000pro.googlegroups.com>
Source record: 4997

On May 11, 7:15 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 10 mayo, 23:37, walt <w...@w2du.com> wrote:
>
> [deleted]
>
>
>
> > Now Wim, your math is very challenging: You state 100w delivered by
> > the source, but at one point you also state 111w is delivered to the
> > 100-load--at another point you state that 100w is delivered to the 100-
> > ohm load. Which is it?
>
> > You also state that voltage out of the source is 212.1v--sum ting wong
> > here. 212.1v across 50 ohms yields 899.73w, and 212.1v across 100 ohm
> > yields 449.86w. These power values are nowhere near the values
> > appearing in you statements.
>
> > In my calculations, with 100w the voltage across a 50-ohm line is
> > 70.71v, and across a 100-ohm line the voltage is 100v.
>
> > With a 50-ohm line terminated in 100 ohms, the vrc is 0.3333 as you
> > stated, thus the power-reflection coefficient is 0.1111. This means,
> > as I've stated continually, that with 100w delivered by the source,
> > the power reflected at the 2:1 mismatch is 11.111w, which when added
> > to the 100w supplied by the source, makes the forward power 111.11w.
> > Now with 11.111w of power reflected at the mismatch, this leaves 100w
> > delivered to the 100-ohm load, not 111w. Please tell me where the 111w
> > came from. You also haven't told us why you calculate 130w forward and
> > 15w reflected. Someone else may have made these calculations, but it
> > was you I asked for an explanation, because you repeated those
> > calculations.
>
> > When using the correct physics and math in this example, how can the
> > results be so different?
>
> > To close, let me present the procedure I use to calculate the total
> > forward power--I guess it is related to Ohm's Law:
>
> > With the power-reflection coefficient as prc, the forward power PF = 1/
> > (1 - prc).
>
> > So Wim, can you clarify the confusion you appear to have made?
>
> > Walt

>
> Hello Walt,
>
> The source (that is the PA in this case) produces an EMF (as mentioned
> before) of 212.1Vrms, Source impedance is 100 Ohms (so forget the
> "conjugated match" thing for this case).
>
> When terminated according to the numbers above the socket ("100W into
> 50 Ohms"), this results in 100W (Vout = 212.1*50/(50+100) = 70.7V,
> just a voltage divider consisting of 100 Ohms and 50 Ohms).
>
> 70.7V into 50 Ohms makes 100W.
>
> Now we remove the 50 Ohms load and create a mismatch (referenced to 50
> Ohms), by connecting a 100 Ohms load (VSWR = 100/50 = 2)
>
> Now the output voltage will be:
>
> Vout = 212.1*100/(100 +100) = 106V
>
> 106V into 100 Ohms makes 112W (forgive me the one Watt difference).
>
> This all without any transmission line theory.
>
> Now the forward and reflected power balance (this is exactly the same
> as in my previous posting, except for using 112W instead of 111W):
>
> 100 Ohms equals |rc| = 0.3333 (50 Ohms reference).
>
> Hence "reflected power" = 0.333^2*"incident power"   = 0.111*"incident
> power".
>
> "net delivered power" = "incident power" – "reflected power" = 112W.
>
> "net delivered power" = (1-0.11111)*"incident power" = 112W.
>
> "incident power"= 126W, "reflected power" = 14 W
>
> As far as I can see, there is nothing new with respect to the previous
> calculation, except for the truncation/rounding.
>
> Similar reasoning can be applied to my class-E PA. It is designed for
> 500W into 4.5 Ohm, but the output impedance is below 1 Ohms. If you
> try to achieve conjugate match, you fry the active devices. Same is
> valid for most audio amplifiers, they may mention: "80W into 8 Ohm",
> but that does not mean that Zout = 8 Ohms.
>
> Awaiting your comment,
>
> Wim

> PA3DJSwww.tetech.nl

Of course, with pretty much any decently designed power amplifier, no matter the frequency, included protection circuits will limit the dissipation and voltage in the critical areas (e.g., the output active devices). Loads become disconnected or shorted sometimes; winds blow stray wires or tree limbs across antennas. Through a piece of transmission line, such a change can reflect back to become any possible phase angle, and any of a very wide range of magnitudes, at the amplifier's output.

Though it's a red herring typical of audio-speak, most modern high fidelity audio amplifiers have a very low output impedance, a small fraction of an ohm, so they can claim a high damping factor. Off topic: the reason it's a red herring is that the impedance of the speaker connected to the amplifier must be included to figure the damping, and that impedance (even just the DC resistance of voice coils) changes by considerably more than the amplifier's output impedance (resistance) just because of heating on audio peaks.

Especially when reactive components (inductors and capacitors) couple power between a source and a load, you can get stresses--voltages and/or currents--well beyond what's safe when you try to operate the source into a load it's not intended to handle. That's true even when the net power delivered to the load is considerably LESS than the rated output power of the source. Wim's example of the class-E amplifier is true enough, but it's not necessary to ask the source to deliver more net load power than it's rated to deliver, to establish conditions that cause trouble. Thus, even sources that have an output impedance at or very close to the rated load impedance will have circuits to protect against loads that could destroy things inside the amplifier.

Cheers,
Tom

1097. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 23:43:07 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d21e63b4-1aae-4082-bde6-48fd6cc2bc07@x6g2000yqj.googlegroups.com>
Source record: 4998

Hello Walt,

We have just a voltage source of 212Vrms with 100 Ohms in series. This is all in a black box and called my PA. That black box has a UHF socket and that mentions "100 W into 50 Ohms".

When you connect 50 Ohms to the SO 239 socket, you get a voltage divider. 2/3 of the EMF is across the internal 100 Ohms and 1/3 is across the 50 Ohms load. This results in 70.7V across the load (so 100W).

Does this make sense?

Wim
PA3DJS

1098. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-13 23:52:42 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <3fd6746d-1094-40f7-9641-b83377729147@n10g2000yqf.googlegroups.com>
Source record: 4999

```
On 14 mayo, 01:28, K7ITM <k7...@msn.com> wrote:
> On May 11, 7:15 am, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 10 mayo, 23:37, walt <w...@w2du.com> wrote:
>
> > [deleted]
>
> > > Now Wim, your math is very challenging: You state 100w delivered by
> > > the source, but at one point you also state 111w is delivered to the
> > > 100-load--at another point you state that 100w is delivered to the 100-
> > > ohm load. Which is it?
>
> > > You also state that voltage out of the source is 212.1v--sum ting wong
> > > here. 212.1v across 50 ohms yields 899.73w, and 212.1v across 100 ohm
> > > yields 449.86w. These power values are nowhere near the values
> > > appearing in you statements.
>
> > > In my calculations, with 100w the voltage across a 50-ohm line is
> > > 70.71v, and across a 100-ohm line the voltage is 100v.
>
> > > With a 50-ohm line terminated in 100 ohms, the vrc is 0.3333 as you
> > > stated, thus the power-reflection coefficient is 0.1111. This means,
> > > as I've stated continually, that with 100w delivered by the source,
> > > the power reflected at the 2:1 mismatch is 11.111w, which when added
> > > to the 100w supplied by the source, makes the forward power 111.11w.
> > > Now with 11.111w of power reflected at the mismatch, this leaves 100w
> > > delivered to the 100-ohm load, not 111w. Please tell me where the 111w
> > > came from. You also haven't told us why you calculate 130w forward and
> > > 15w reflected. Someone else may have made these calculations, but it
> > > was you I asked for an explanation, because you repeated those
> > > calculations.
>
> > > When using the correct physics and math in this example, how can the
> > > results  be so different?
>
> > > To close, let me present the procedure I use to calculate the total
> > > forward power--I guess it is related to Ohm's Law:
>
> > > With the power-reflection coefficient as prc, the forward power PF = 1/
> > > (1 - prc).
>
> > > So Wim, can you clarify the confusion you appear to have made?
```

>
> > > Walt
>
> > Hello Walt,
>
> > The source (that is the PA in this case) produces an EMF (as mentioned
> > before) of 212.1Vrms, Source impedance is 100 Ohms (so forget the
> > "conjugated match" thing for this case).
>
> > When terminated according to the numbers above the socket ("100W into
> > 50 Ohms"), this results in 100W (Vout = 212.1*50/(50+100) = 70.7V,
> > just a voltage divider consisting of 100 Ohms and 50 Ohms).
>
> > 70.7V into 50 Ohms makes 100W.
>
> > Now we remove the 50 Ohms load and create a mismatch (referenced to 50
> > Ohms), by connecting a 100 Ohms load (VSWR = 100/50 = 2)
>
> > Now the output voltage will be:
>
> > Vout = 212.1*100/(100 +100) = 106V
>
> > 106V into 100 Ohms makes 112W (forgive me the one Watt difference).
>
> > This all without any transmission line theory.
>
> > Now the forward and reflected power balance (this is exactly the same
> > as in my previous posting, except for using 112W instead of 111W):
>
> > 100 Ohms equals |rc| = 0.3333 (50 Ohms reference).
>
> > Hence "reflected power" = 0.333^2*"incident power"   = 0.111*"incident
> > power".
>
> > "net delivered power" = "incident power" - "reflected power" = 112W.
>
> > "net delivered power" = (1-0.11111)*"incident power" = 112W.
>
> > "incident power"= 126W, "reflected power" = 14 W
>
> > As far as I can see, there is nothing new with respect to the previous
> > calculation, except for the truncation/rounding.
>
> > Similar reasoning can be applied to my class-E PA. It is designed for
> > 500W into 4.5 Ohm, but the output impedance is below 1 Ohms. If you
> > try to achieve conjugate match, you fry the active devices. Same is
> > valid for most audio amplifiers, they may mention: "80W into 8 Ohm",
> > but that does not mean that Zout = 8 Ohms.
>
> > Awaiting your comment,

>
> > Wim
> > PA3DJSwww.tetech.nl
>
> Of course, with pretty much any decently designed power amplifier, no
> matter the frequency, included protection circuits will limit the
> dissipation and voltage in the critical areas (e.g., the output active
> devices). Loads become disconnected or shorted sometimes; winds blow
> stray wires or tree limbs across antennas. Through a piece of
> transmission line, such a change can reflect back to become any
> possible phase angle, and any of a very wide range of magnitudes, at
> the amplifier's output.
>
> Though it's a red herring typical of audio-speak, most modern high
> fidelity audio amplifiers have a very low output impedance, a small
> fraction of an ohm, so they can claim a high damping factor. Off
> topic: the reason it's a red herring is that the impedance of the
> speaker connected to the amplifier must be included to figure the
> damping, and that impedance (even just the DC resistance of voice
> coils) changes by considerably more than the amplifier's output
> impedance (resistance) just because of heating on audio peaks.
>
> Especially when reactive components (inductors and capacitors) couple
> power between a source and a load, you can get stresses--voltages and/
> or currents--well beyond what's safe when you try to operate the
> source into a load it's not intended to handle. That's true even when
> the net power delivered to the load is considerably LESS than the
> rated output power of the source.

Hello Tom,

I agree with your statement. If you have a CLC LPF section that
introduces about 90 degrees phase delay (see it as a quarter wave
section) and it looks into an open load (so zero power is delivered
to this open load), this will result in a low impedance at the input
of the CLC network. If the plate is connected at this CLC network,
the plate's dissipation will greatly increase.

> Wim's example of the class-E
> amplifier is true enough, but it's not necessary to ask the source to
> deliver more net load power than it's rated to deliver, to establish
> conditions that cause trouble. Thus, even sources that have an output
> impedance at or very close to the rated load impedance will have
> circuits to protect against loads that could destroy things inside the
> amplifier.

I also fully agree on this one.

>
> Cheers,
> Tom

With kind regards,

Wim
PA3DJS
www.tetech.nl

1099. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 00:57:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7pjrs6t78ddv1qmfc3bgljudtd3nrt0b7o@4ax.com>
Source record: 5000

On Fri, 13 May 2011 16:28:52 -0700 (PDT), K7ITM <k7itm@msn.com> wrote:

>Though it's a red herring typical of audio-speak, most modern high
>fidelity audio amplifiers have a very low output impedance, a small
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>impedance at or very close to the rated load impedance will have
>circuits to protect against loads that could destroy things inside the
>amplifier.

I'm going to slip a mickey into this by a careful, editorial change of
focus BACK to the subject line.

Though it's a red herring typical of Ham-speak, most modern retail
100W RF transmitters for amateur service have a very low output
impedance, a fraction of an ohm [editorial: until, of course, it goes
to the Z transformer that precedes the bandpass filter].

It must be a rare condition for which there is a transition frequency
below which audio amps source rated at sub Ohm Z feeding loads up to
10 times the sub-Ohm design work - and above which retail Amateur
transmitters at loads up to 10 times the sub-Ohm design do not work
[editorial: without that Z transformer]. Curious logic.

I wonder if that works (sic) backwards? Would the RF deck's finals
feed a speaker with audio with equal power performance of the Audio
amp? Both are sub-Ohm sources, and the RF deck certainly has the
bandwidth.

I await the specification of this transition frequency and the
analysis of how the 100W RF final deck would fail to supply 100W audio
(however crummy it may sound).

Any problems that might arise for the retail Ham transmitter are
already handled by protection circuitry so that's a wash.

73's
Richard Clark, KB7QHC

1100. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 01:08:18 UTC
From: walt <walt@w2du.com>
Message-ID: <ca3ed423-f16f-4fa5-9a2d-de8cde9e70b2@24g2000yqk.googlegroups.com>
Source record: 4901

On May 13, 8:57 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 13 May 2011 16:28:52 -0700 (PDT), K7ITM <k7...@msn.com> wrote:
> >Though it's a red herring typical of audio-speak, most modern high
> >fidelity audio amplifiers have a very low output impedance, a small
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> [editorial: without that Z transformer]. Curious logic.
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> amp? Both are sub-Ohm sources, and the RF deck certainly has the
> bandwidth.
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> I await the specification of this transition frequency and the

> analysis of how the 100W RF final deck would fail to supply 100W audio
> (however crummy it may sound).
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> Any problems that might arise for the retail Ham transmitter are
> already handled by protection circuitry so that's a wash.
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> 73's
> Richard Clark, KB7QHC

Yes Wim, I understand your black box, and the voltage-divider action that occurs when terminated into 50 ohms. But you didn't answer my question, as you normally don't do. So I'll ask it again, as I did in my previous post:

"(Vout = 212.1*50/(50+100) = 70.7V," I asked for the mathematical basis for this equation. I agree that it's mathematically correct, but 212.1 is voltage, or E, but where does 212.1*50 come from? The equation appears to be of the form E/R = E, which is absurd. In what equational form is this equation? I'm trying to learn here.
Walt
"

1101. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 01:17:02 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iqkl6i$4gj$1@dont-email.me>
Source record: 4902

```
On 5/13/2011 8:08 PM, walt wrote:
> On May 13, 8:57 pm, Richard Clark<kb7...@comcast.net> wrote:
>> On Fri, 13 May 2011 16:28:52 -0700 (PDT), K7ITM<k7...@msn.com> wrote:
>>> Though it's a red herring typical of audio-speak, most modern high
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>>> topic: the reason it's a red herring is that the impedance of the
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>>> coils) changes by considerably more than the amplifier's output
>>> impedance (resistance) just because of heating on audio peaks.
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>>> Especially when reactive components (inductors and capacitors) couple
>>> power between a source and a load, you can get stresses--voltages and/
>>> or currents--well beyond what's safe when you try to operate the
>>> source into a load it's not intended to handle. That's true even when
>>> the net power delivered to the load is considerably LESS than the
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>>> amplifier is true enough, but it's not necessary to ask the source to
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>>> conditions that cause trouble. Thus, even sources that have an output
>>> impedance at or very close to the rated load impedance will have
>>> circuits to protect against loads that could destroy things inside the
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>> I'm going to slip a mickey into this by a careful, editorial change of
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>> bandwidth.
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```

>> I await the specification of this transition frequency and the
>> analysis of how the 100W RF final deck would fail to supply 100W audio
>> (however crummy it may sound).
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>> Any problems that might arise for the retail Ham transmitter are
>> already handled by protection circuitry so that's a wash.
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> "(Vout = 212.1*50/(50+100) = 70.7V," I asked for the mathematical
> basis for this equation. I agree that it's mathematically correct, but
> 212.1 is voltage, or E, but where does 212.1*50 come from? The
> equation appears to be of the form E/R = E, which is absurd. In what
> equational form is this equation? I'm trying to learn here.
> Walt
> "

I apologize for stepping in, Walt, but, maybe this will help:

Vout = 212.1 * (50/(50+100))

In other words, Vout is equal to Vsource times the divider ratio.

I know you know this. I think you just misread it.

Cheers,
John

1102. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 01:17:10 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <1dbd1bda-52fb-49df-ac2c-cafe81fa3080@j31g2000yqe.googlegroups.com>
Source record: 4903

On 14 mayo, 03:08, walt <w...@w2du.com> wrote:
> On May 13, 8:57 pm, Richard Clark <kb7...@comcast.net> wrote:
>
>
>
> > On Fri, 13 May 2011 16:28:52 -0700 (PDT), K7ITM <k7...@msn.com> wrote:
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> equational form is this equation? I'm trying to learn here.
> Walt
> "

Walt,

First you should change language, because if you don't understand something, it is not always the other party who is wrong.

For a voltage divider:

Vout = Vin*R1/(R1+R2).

R1 is the lower resistor , here 50 Ohms, R2 is the upper resistor, here 100 Ohms (inside the black box). I can't make it easier. Vin = 212.1 Vrms.

Wim

1103. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 01:36:35 UTC
From: walt <walt@w2du.com>
Message-ID: <1513cec8-31f3-44d1-b807-8c0daba914ce@z19g2000yqz.googlegroups.com>
Source record: 4904

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On May 13, 9:17 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 14 mayo, 03:08, walt <w...@w2du.com> wrote:
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> here 100 Ohms (inside the black box). I can't make it easier. Vin =
> 212.1 Vrms.
>
> Wim

Thank you for the clarification, Wim. I was unaware of that equation relative to voltage dividers. I'm going to have to do some thinking on that equation before I'll understand the relevance of the numerator, or how it relates to the calculation.

Walt

1104. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 02:59:28 UTC
From: walt <walt@w2du.com>
Message-ID: <cb931175-befb-4fb6-83c5-172ed8f3ef8c@bl1g2000vbb.googlegroups.com>
Source record: 4905

On May 13, 9:36 pm, walt <w...@w2du.com> wrote:
> On May 13, 9:17 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
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> > > > >topic: the reason it's a red herring is that the impedance of the
> > > > >speaker connected to the amplifier must be included to figure the
> > > > >damping, and that impedance (even just the DC resistance of voice
> > > > >coils) changes by considerably more than the amplifier's output
> > > > >impedance (resistance) just because of heating on audio peaks.
>
> > > > >Especially when reactive components (inductors and capacitors) couple
> > > > >power between a source and a load, you can get stresses--voltages and/
> > > > >or currents--well beyond what's safe when you try to operate the
> > > > >source into a load it's not intended to handle. That's true even when
> > > > >the net power delivered to the load is considerably LESS than the
> > > > >rated output power of the source. Wim's example of the class-E
> > > > >amplifier is true enough, but it's not necessary to ask the source to
> > > > >deliver more net load power than it's rated to deliver, to establish
> > > > >conditions that cause trouble. Thus, even sources that have an output
> > > > >impedance at or very close to the rated load impedance will have
> > > > >circuits to protect against loads that could destroy things inside the
> > > > >amplifier.
>
> > > > I'm going to slip a mickey into this by a careful, editorial change of
> > > > focus BACK to the subject line.
>
> > > > Though it's a red herring typical of Ham-speak, most modern retail
> > > > 100W RF transmitters for amateur service have a very low output
> > > > impedance, a fraction of an ohm [editorial: until, of course, it goes

> > > > to the Z transformer that precedes the bandpass filter].
>
> > > > It must be a rare condition for which there is a transition frequency
> > > > below which audio amps source rated at sub Ohm Z feeding loads up to
> > > > 10 times the sub-Ohm design work - and above which retail Amateur
> > > > transmitters at loads up to 10 times the sub-Ohm design do not work
> > > > [editorial: without that Z transformer]. Curious logic.
>
> > > > I wonder if that works (sic) backwards? Would the RF deck's finals
> > > > feed a speaker with audio with equal power performance of the Audio
> > > > amp? Both are sub-Ohm sources, and the RF deck certainly has the
> > > > bandwidth.
>
> > > > I await the specification of this transition frequency and the
> > > > analysis of how the 100W RF final deck would fail to supply 100W audio
> > > > (however crummy it may sound).
>
> > > > Any problems that might arise for the retail Ham transmitter are
> > > > already handled by protection circuitry so that's a wash.
>
> > > > 73's
> > > > Richard Clark, KB7QHC
>
> > > Yes Wim, I understand your black box, and the voltage-divider action
> > > that occurs when terminated into 50 ohms. But you didn't answer my
> > > question, as you normally don't do. So I'll ask it again, as I did in
> > > my previous post:
>
> > > "(Vout = 212.1*50/(50+100) = 70.7V," I asked for the mathematical
> > > basis for this equation. I agree that it's mathematically correct, but
> > > 212.1 is voltage, or E, but where does 212.1*50 come from? The
> > > equation appears to be of the form E/R = E, which is absurd. In what
> > > equational form is this equation? I'm trying to learn here.
> > > Walt
> > > "
>
> > Walt,
>
> > First you should change language, because if you don't understand
> > something, it is not always the other party who is wrong.
>
> > For a voltage divider:
>
> > Vout = Vin*R1/(R1+R2).
>
> > R1 is the lower resistor , here 50 Ohms, R2 is the upper resistor,
> > here 100 Ohms (inside the black box). I can't make it easier. Vin =
> > 212.1 Vrms.
>
> > Wim

>
> Thank you for the clarification, Wim. I was unaware of that equation
> relative to voltage dividers. I'm going to have to do some thinking on
> that equation before I'll understand the relevance of the numerator,
> or how it relates to the calculation.
>
> Walt

Thank you for stepping in, John, as from you and Wim I understand that that equation represents the voltage-divider circuit. However, I'm still agonizing over the numerator in the ratio. I just can't fit it into the voltage-divider concept. Gimme a little time and it will probably sink in.

Walt

1105. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 07:48:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7scss6pl6gsvbpqubsnfhd8d0r7jjc6g4a@4ax.com>
Source record: 4906

On Fri, 13 May 2011 17:57:27 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>I await the specification of this transition frequency and the
>analysis of how the 100W RF final deck would fail to supply 100W audio
>(however crummy it may sound).
>

:-)

That was way too hard.

1106. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 12:47:26 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <32404b85-6d9d-46b3-8afe-91a8b5721aca@k22g2000yqh.googlegroups.com>
Source record: 4907

On 14 mayo, 02:57, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 13 May 2011 16:28:52 -0700 (PDT), K7ITM <k7...@msn.com> wrote:
> >Though it's a red herring typical of audio-speak, most modern high
> >fidelity audio amplifiers have a very low output impedance, a small
> >fraction of an ohm, so they can claim a high damping factor. Off
> >topic: the reason it's a red herring is that the impedance of the
> >speaker connected to the amplifier must be included to figure the
> >damping, and that impedance (even just the DC resistance of voice
> >coils) changes by considerably more than the amplifier's output
> >impedance (resistance) just because of heating on audio peaks.
>
> >Especially when reactive components (inductors and capacitors) couple
> >power between a source and a load, you can get stresses--voltages and/
> >or currents--well beyond what's safe when you try to operate the
> >source into a load it's not intended to handle. That's true even when
> >the net power delivered to the load is considerably LESS than the
> >rated output power of the source. Wim's example of the class-E
> >amplifier is true enough, but it's not necessary to ask the source to
> >deliver more net load power than it's rated to deliver, to establish
> >conditions that cause trouble. Thus, even sources that have an output
> >impedance at or very close to the rated load impedance will have
> >circuits to protect against loads that could destroy things inside the
> >amplifier.
>
> I'm going to slip a mickey into this by a careful, editorial change of
> focus BACK to the subject line.
>
> Though it's a red herring typical of Ham-speak, most modern retail
> 100W RF transmitters for amateur service have a very low output
> impedance, a fraction of an ohm [editorial: until, of course, it goes
> to the Z transformer that precedes the bandpass filter].

Richard, the text below represents real world better:

"Though it's a red herring typical of Ham-speak, most modern retail
100W RF transmitters for amateur service require to see a very low
impedance at their drains/collectors, a fraction of an ohm
[editorial: until, of course, it goes to the Z transformer that
precedes the bandpass filter]."

A push-pull 100W PA (non-switching, just a linear amplifier) fed from
13.8 Vdc will produce a voltage swing of about 20Vp at the primary of
the wide band impedance transformer. I know it can be somewhat more,
but with increased IMD. To extract 100W, you need to create a 2 Ohms
load between the collectors (or drains).

This 2 Ohms has no relation with the actual output impedance of the active devices (as this depends on the impedance seen from the base/gate, semiconductor process, amount of saturation, etc).

With kind regards,

Wim
PA3DJS
In case of PM, remove abc first.

1107. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 15:54:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ia9ts6pd4tae9mcqitpokam1mr2rib0od8@4ax.com>
Source record: 4908

On Sat, 14 May 2011 05:47:26 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>Richard, the text below represents real world better:

Which is to say, you have an explanation, but not an answer.

:-)

It was way too hard.

73's
Richard Clark, KB7QHC

1108. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 16:06:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <028e8419-9b3a-4357-82e7-692a487ddc7c@e21g2000yqe.googlegroups.com>
Source record: 4909

On May 13, 5:51 pm, Wimpie <wimabc...@tetech.nl> wrote:
> When a source behaves like a 50 Ohms source, it will not rereflect the
> reflected power back to the load. In other words the forward power
> generated by the source will not change when changing the load. The
> reflected power that is absorbed by the source may result in increase
> or reduction of power dissipation of the active device. It all depends
> on the change of the integral of V*I (for the active device).

Where is the reflected power that is "absorbed by the source"
dissipated? How can a "reduction of power dissipation" be the result?
The answer is that if the power dissipation of the source decreases
when the reflected power is incident, then destructive interference
energy is being redistributed back toward the load. That destructive
interference energy includes some (or all) of the reflected energy.

The forward wave is associated with EfwdxHfwd power. The reflected
wave is associated with ErefxHref power. The energy in those two waves
traveling in opposite directions at the speed of light in the medium
must be conserved.

For instance, when the load at the end of an ideal 1/4WL feedline is
changed to a short, the forward power is still the same and the
reflected power is equal to the forward power. Yet, the source
dissipation has been reduced to zero even though the reflected power
"is absorbed by the source". In the source resistor, the forward
current is equal in magnitude and 180 degrees out of phase with the
reflected current and the net current superposes to zero. That's the
definition of "total destructive interference" and according to the
conservation of energy principle, the energy involved has to go
somewhere - so it is redistributed in the only possible direction -
back toward the load associated with the "total destructive
interference" that occurs in the 50 ohm source resistor.

The main point to this part of the discussion is to realize that the
forward and reflected wave energy is flowing through the 50 ohm source
resistor because the physical reflection coefficient looking back into
the 50 ohm source from a 50 ohm feedline is zero.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1109. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 18:30:50 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <3fca4644-d0e6-4af0-9903-b6d65cfc8396@k3g2000prl.googlegroups.com>
Source record: 4910

On May 13, 5:57 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 13 May 2011 16:28:52 -0700 (PDT), K7ITM <k7...@msn.com> wrote:
> >Though it's a red herring typical of audio-speak, most modern high
> >fidelity audio amplifiers have a very low output impedance, a small
> >fraction of an ohm, so they can claim a high damping factor. Off
> >topic: the reason it's a red herring is that the impedance of the
> >speaker connected to the amplifier must be included to figure the
> >damping, and that impedance (even just the DC resistance of voice
> >coils) changes by considerably more than the amplifier's output
> >impedance (resistance) just because of heating on audio peaks.
>
> >Especially when reactive components (inductors and capacitors) couple
> >power between a source and a load, you can get stresses--voltages and/
> >or currents--well beyond what's safe when you try to operate the
> >source into a load it's not intended to handle. That's true even when
> >the net power delivered to the load is considerably LESS than the
> >rated output power of the source. Wim's example of the class-E
> >amplifier is true enough, but it's not necessary to ask the source to
> >deliver more net load power than it's rated to deliver, to establish
> >conditions that cause trouble. Thus, even sources that have an output
> >impedance at or very close to the rated load impedance will have
> >circuits to protect against loads that could destroy things inside the
> >amplifier.
>
> I'm going to slip a mickey into this by a careful, editorial change of
> focus BACK to the subject line.
>
> Though it's a red herring typical of Ham-speak, most modern retail
> 100W RF transmitters for amateur service have a very low output
> impedance, a fraction of an ohm [editorial: until, of course, it goes
> to the Z transformer that precedes the bandpass filter].
>
> It must be a rare condition for which there is a transition frequency
> below which audio amps source rated at sub Ohm Z feeding loads up to
> 10 times the sub-Ohm design work - and above which retail Amateur
> transmitters at loads up to 10 times the sub-Ohm design do not work
> [editorial: without that Z transformer]. Curious logic.
>
> I wonder if that works (sic) backwards? Would the RF deck's finals
> feed a speaker with audio with equal power performance of the Audio
> amp? Both are sub-Ohm sources, and the RF deck certainly has the
> bandwidth.
>
> I await the specification of this transition frequency and the

> analysis of how the 100W RF final deck would fail to supply 100W audio
> (however crummy it may sound).
>
> Any problems that might arise for the retail Ham transmitter are
> already handled by protection circuitry so that's a wash.
>
> 73's
> Richard Clark, KB7QHC

FWIW, I've built audio amplifiers with output transistors with f-sub-t around 50MHz. Those transistors certainly would provide decent power gain at the lower frequency HF ham bands. They were used in the audio amp to achieve very low distortion across the audio spectrum (a very few PPM at full rated power output).

One big difference between (typical) audio amplifiers and (typical) RF power amplifiers is in the use of negative feedback. In an audio amplifier, voltage-derived negative feedback yields a very low amplifier output impedance. In almost all RF power amplifiers, little or no negative feedback is used, so the output impedance is generally much higher than with an audio amplifier running similar power and supply voltage to the output devices.

But again, the source impedance of a transmitter is seldom important in the application of the amplifier. What's important are things like the optimal load impedance and the rated power output. I'd put things like distortion specs for a linear amp far above source impedance in importance. If you (the lurking reader) think source impedance is important, please explain in detail _why_.

Cheers,
Tom

1110. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 18:56:20 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <382450d4-7154-41d0-a7c4-3c03f8c9fd25@s11g2000yqj.googlegroups.com>
Source record: 4911

On 14 mayo, 18:06, Cecil Moore <w5...@hotmail.com> wrote:
> On May 13, 5:51 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > When a source behaves like a 50 Ohms source, it will not rereflect the
> > reflected power back to the load. In other words the forward power
> > generated by the source will not change when changing the load. The
> > reflected power that is absorbed by the source may result in increase
> > or reduction of power dissipation of the active device. It all depends
> > on the change of the integral of V*I (for the active device).
>
> Where is the reflected power that is "absorbed by the source"
> dissipated? How can a "reduction of power dissipation" be the result?

Hello Cecil,

Ever looked at the plate current indicator during tuning? I think you did. Here you see that plate loading affects plate current, hence DC input power to the PA.

Just convert the voltage reflection coefficient (as seen by the PA) to an impedance and work this back through the Pi-filter to the plate. Now you can forget the whole reflected power story.

What happens now depends on what the plate sees. Due to internal feedback (grid capacitances) and/or voltage saturation issues, both plate dissipation and average plate current (so PA input power) may change. Same is valid for solid state PAs also. Changing the load changes device dissipation and DC input power.

I mentioned this in this thread and a similar thread about a year ago.

your question directly: reduction in power dissipation can occur when the impedance as seen from the active devices increases. It will go into voltage saturation, and this leads to a reduction in average (DC) current and integral of V*I product. V can be plate voltage, I can be plate current.

> The answer is that if the power dissipation of the source decreases
> when the reflected power is incident, then destructive interference
> energy is being redistributed back toward the load. That destructive
> interference energy includes some (or all) of the reflected energy.

If some of the reflected wave re-reflects at the cable-PA transition, you will notice this very likely at the forward power indicator. It also shows that in that case the output impedance of the PA isn't 50 Ohms (as is the case with many PAs).

>
> The forward wave is associated with EfwdxHfwd power. The reflected
> wave is associated with ErefxHref power. The energy in those two waves
> traveling in opposite directions at the speed of light in the medium
> must be conserved.
>
> For instance, when the load at the end of an ideal 1/4WL feedline is
> changed to a short, the forward power is still the same and the
> reflected power is equal to the forward power.

Fully agree, if the source remains a 50 Ohms source under this massive mismatch.

> Yet, the source
> dissipation has been reduced to zero even though the reflected power
> "is absorbed by the source".

I do generally not agree on this one, please convert your Thevenin source to a Norton source. Though the source doesn't deliver any power to the shorted quarter wave line (as its input impedance is infinite), there is still dissipation in the source.

Practical issue (very related to PAs): when you put your shorted quarter wave line directly to a PA with a type of L match (as is used in low voltage solid state PAs), the L match will "convert" this impedance to a very low value, resulting in an near AC short at the drain or collector. This will greatly increase the power dissipation in the BJT or MOSFET.

> In the source resistor, the forward
> current is equal in magnitude and 180 degrees out of phase with the
> reflected current and the net current superposes to zero. That's the
> definition of "total destructive interference" and according to the
> conservation of energy principle, the energy involved has to go
> somewhere - so it is redistributed in the only possible direction -
> back toward the load associated with the "total destructive
> interference" that occurs in the 50 ohm source resistor.
>
> The main point to this part of the discussion is to realize that the
> forward and reflected wave energy is flowing through the 50 ohm source
> resistor because the physical reflection coefficient looking back into
> the 50 ohm source from a 50 ohm feedline is zero.

> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

For the experimenters:
Make this setup: PA – forward/reflected power indicator – tuner – 50 Ohms load. Have a means to measure the PA input current.

Notice DC input current and forward power when the tuner is not used (bypassed) and don't touch PA settings anymore. Now activate the tuner and show slight mismatch to your PA (with your tuner). Notice the PA

input current and forward power reading. You may need to turn of ALC or other means that automatically change the drive level of the actual power device (valve or semiconductor).

Very likely both PA input current and forward power reading will change. You may do this at various power levels and not the difference.

With kind regards,

Wim
PA3DJS
www.tetech.nl

1111. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 19:16:00 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <2d6f18ce-2f1e-4e54-bf29-d9b0f271166a@q32g2000yqn.googlegroups.com>
Source record: 4912

On 14 mayo, 17:54, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 14 May 2011 05:47:26 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >Richard, the text below represents real world better:
>
> Which is to say, you have an explanation, but not an answer.
>
> :-)
>
> It was way too hard.
>
> 73's
> Richard Clark, KB7QHC

I just thought you made some error in converting your thoughts into
sentences (we are just humans), but maybe the error was in the
thoughts already.

Wim
PA3DJS

1112. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 19:36:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2ejts6h54q5nsi6gfnjs7tlnfnph2gs2nl@4ax.com>
Source record: 4913

On Sat, 14 May 2011 11:30:50 -0700 (PDT), K7ITM <k7itm@msn.com> wrote:

>FWIW, I've built audio amplifiers with output transistors with f-sub-t
>around 50MHz. Those transistors certainly would provide decent power
>gain at the lower frequency HF ham bands. They were used in the audio
>amp to achieve very low distortion across the audio spectrum (a very
>few PPM at full rated power output).

Hi Tom,

An Answer to one of my questions (and by inference two of them)!

The inference is there is NO transition frequency where source Z
becomes trivial/meaningful. Hence, statements alleging correlations
at one end of the spectrum must be observed at the other end.

If this is disputed, we (or at least I) would certainly like to see
what that transition frequency is.

>One big difference between (typical) audio amplifiers and (typical) RF
>power amplifiers is in the use of negative feedback. In an audio
>amplifier, voltage-derived negative feedback yields a very low
>amplifier output impedance. In almost all RF power amplifiers, little
>or no negative feedback is used, so the output impedance is generally
>much higher than with an audio amplifier running similar power and
>supply voltage to the output devices.

Well, at the RF finals deck, before the Z transformer, there is slight
to no difference in output impedance. Both are sub-Ohm.

>But again, the source impedance of a transmitter is seldom important
>in the application of the amplifier.

This seems at odds with other writers - if it is an AF amplifier. And
yet none seem to be able to describe the transition frequency for
identical designs (such as yours above, or as close to it as
practicable) where it DOES become important (higher output power, as
if any Ham would snub that advantage if (s)he could snip out the Z
transformer in the rig).

One still unanswered question remains that if a low output Z is so
beneficial to achieving higher output power (a claim that none seem
ready to dispute), then why the step up in Z from the finals deck to
the output connector? I have read an explanation from Wim, but it
fails as an argument for AF where a similar mismatch between source
and load is observed - and yet this mismatch is the greatest quality
for an amplifier since sliced bread.

AF - RF A curious tennis match here where what going over the net in this game is a golf ball in one direction, and a basketball in the other.

>What's important are things like
>the optimal load impedance and the rated power output. I'd put things
>like distortion specs for a linear amp far above source impedance in
>importance. If you (the lurking reader) think source impedance is
>important, please explain in detail _why_.

The self-same NEGATIVE feedback, lacking in retail rigs, would accomplish any form of improvement at the cost of what H.W. Bode called "noise gain." The dollar cost is not inconsequential. Not much more detail is needed for the average Ham.

For the better than average Ham, the increase in NEGATIVE feedback, goes directly to lowering:
Gain,
Power out (as a function of following gain),
Bandwidth (as a function of following gain),
Distortion,
Power supply disturbance,
Noise,
Input Z (or through clever design, raising it),
Output Z (or through clever design, raising it),
while increasing cost in near or GREATER proportion.

Every Ham knows the adage that there is no such thing as a free lunch, and the marketplace enforces that without exception.

* *

On Mon, 25 Apr 2011 18:07:59 -0700, Jim Lux <james.p.lux@jpl.nasa.gov> wrote:

>ON9CVD made some simple measurements using a couple of resistors and
>foudn that a TS440 has a Zout somewhere around 15-40 ohms (depending on
>frequency and output power).
>http://sharon.esrac.ele.tue.nl/~on9cvd/E-Uitgangsimpedantie.htm

Let's see here, a reported source Z as low as 15 (let's just call it 20) Ohms with 100W into 50 Ohms. I have read an explanation that this is impossible (or improbable) for RF from a retail HF rig (such as a TS440), but achievable at AF.

Meanwhile, back at the tennis match....

73's
Richard Clark, KB7QHC

1113. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 20:48:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fhmts6tagg1muu5mse58b2q7se45llejc4@4ax.com>
Source record: 4914

On Sat, 14 May 2011 12:16:00 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>I just thought you made some error in converting your thoughts into
>sentences (we are just humans), but maybe the error was in the
>thoughts already.

At the risk of removing a snippet from context, and simplifying in
language and construction:

BELOW a
transition frequency
audio amps source rated at LOW Z sourcing high power into HIGH Z loads
work.

ABOVE that
transition frequency
retail Amateur transmitters source rated at LOW Z sourcing high power
into HIGH Z loads
do not work.

I wonder if that works (sic) with these statements reversed?

Bonus question:

What is the transition frequency?

Both questions can be simply answered: the first with a binary
response, the other with a numerical response (two place precision is
OK - even one place precision is sufficient).

This is the price of subject drift:
"AF amp specs as proof of RF amp performance."
What a work of obscurity.

You can challenge the premise, of course; but to reduce rambling
thoughts driven by subject drift, and to remain on topic:
References:
<7634e01d-847f-48ea-be5b-17d56c7c2329@k3g2000prl.googlegroups.com>

73's
Richard Clark, KB7QHC

1114. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 20:54:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1vqts65nf4naom04m6pe43t99lk6su6lq5@4ax.com>
Source record: 4915

On Sat, 14 May 2011 13:48:32 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>You can challenge the premise, of course; but to reduce rambling
>thoughts driven by subject drift, and to remain on topic:
>References:
><7634e01d-847f-48ea-be5b-17d...>
S/B:
Message-ID: <ip55s3rss1@news.jpl.nasa.gov>

73's
Richard Clark, KB7QHC

1115. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 22:04:00 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <03926c51-84bc-45ac-85b6-91aafb63d6b8@z19g2000yqz.googlegroups.com>
Source record: 4916

On 14 mayo, 22:48, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 14 May 2011 12:16:00 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >I just thought you made some error in converting your thoughts into
> >sentences (we are just humans), but maybe the error was in the
> >thoughts already.
>
> At the risk of removing a snippet from context, and simplifying in
> language and construction:
>
> BELOW a
>   transition frequency
> audio amps source rated at LOW Z sourcing high power into HIGH Z loads
> work.
>
> ABOVE that
>   transition frequency
> retail Amateur transmitters source rated at LOW Z sourcing high power
> into HIGH Z loads
>   do not work.
>
> I wonder if that works (sic) with these statements reversed?
>
> Bonus question:
>
> What is the transition frequency?
>
> Both questions can be simply answered: the first with a binary
> response, the other with a numerical response (two place precision is
> OK - even one place precision is sufficient).
>
> This is the price of subject drift:
>   "AF amp specs as proof of RF amp performance."
> What a work of obscurity.
>
> You can challenge the premise, of course; but to reduce rambling
> thoughts driven by subject drift, and to remain on topic:
> References:
> <7634e01d-847f-48ea-be5b-17d56c7c2...@k3g2000prl.googlegroups.com>
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

Part from original posting (salmonella):

"Something I haven't seen is a discussion of the source impedance of
the transmitter. My curiosity was piqued today as I took some baby
steps into EZNEC. A particular antenna had such-and-such VSWR if fed
with a 50-ohm cable and a different value if fed with a 75-ohm cable."

The subject is output impedance of a PA. I made a clear statement
regarding this in my first reaction.

Part of your posting:

> Though it's a red herring typical of Ham-speak, most modern retail
> 100W RF transmitters for amateur service have a very low output
> impedance, a fraction of an ohm [editorial: until, of course, it goes
> to the Z transformer that precedes the bandpass filter].

The above text is basically on topic, but not correct, so I suggested
a correction. In my opinion, the push-pull example is OT also.

Some snippet from you posting:

> You can challenge the premise, of course; but to reduce rambling
> thoughts driven by subject drift, and to remain on topic:

Are you pointing to the rambling in your own mind?

Wim
PA3DJS
www.tetech.nl

1116. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-14 22:35:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tq0us6tug9rhgvlggk56e7n21u7tqd1s33@4ax.com>
Source record: 4917

On Sat, 14 May 2011 15:04:00 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>> You can challenge the premise, of course; but to reduce rambling
>> thoughts driven by subject drift, and to remain on topic:
>
>Are you pointing to the rambling in your own mind?
>

Do you have a threaded newsreader? I provided the correct link within
6 minutes in-thread.

73's
Richard Clark, KB7QHC

1117. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-15 09:27:26 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b0489e93-80a6-41b8-bd3e-af42fe753906@d15g2000yqn.googlegroups.com>
Source record: 4918

On 14 mayo, 21:36, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 14 May 2011 11:30:50 -0700 (PDT), K7ITM <k7...@msn.com> wrote:
> >FWIW, I've built audio amplifiers with output transistors with f-sub-t
> >around 50MHz. Those transistors certainly would provide decent power
> >gain at the lower frequency HF ham bands. They were used in the audio
> >amp to achieve very low distortion across the audio spectrum (a very
> >few PPM at full rated power output).
>
> Hi Tom,
>
> An Answer to one of my questions (and by inference two of them)!
>
> The inference is there is NO transition frequency where source Z
> becomes trivial/meaningful. Hence, statements alleging correlations
> at one end of the spectrum must be observed at the other end.
>
> If this is disputed, we (or at least I) would certainly like to see
> what that transition frequency is.
>
> >One big difference between (typical) audio amplifiers and (typical) RF
> >power amplifiers is in the use of negative feedback. In an audio
> >amplifier, voltage-derived negative feedback yields a very low
> >amplifier output impedance. In almost all RF power amplifiers, little
> >or no negative feedback is used, so the output impedance is generally
> >much higher than with an audio amplifier running similar power and
> >supply voltage to the output devices.
>
> Well, at the RF finals deck, before the Z transformer, there is slight
> to no difference in output impedance. Both are sub-Ohm.
>
> >But again, the source impedance of a transmitter is seldom important
> >in the application of the amplifier.
>
> This seems at odds with other writers - if it is an AF amplifier. And
> yet none seem to be able to describe the transition frequency for
> identical designs (such as yours above, or as close to it as
> practicable) where it DOES become important (higher output power, as
> if any Ham would snub that advantage if (s)he could snip out the Z
> transformer in the rig).
>
> One still unanswered question remains that if a low output Z is so
> beneficial to achieving higher output power (a claim that none seem
> ready to dispute), then why the step up in Z from the finals deck to
> the output connector? I have read an explanation from Wim, but it

> fails as an argument for AF where a similar mismatch between source
> and load is observed - and yet this mismatch is the greatest quality
> for an amplifier since sliced bread.

Richard, who made that claim regarding that low output Z is so
beneficial? I didn't, so I also did not explain it. I only said that
many PAs don't operate under conjugated match (or even were not
designed to operate under it). This is valid for audio also.
>
> AF - RF   A curious tennis match here where what going over the net in
> this game is a golf ball in one direction, and a basketball in the
> other.
>
> >What's important are things like
> >the optimal load impedance and the rated power output. I'd put things
> >like distortion specs for a linear amp far above source impedance in
> >importance. If you (the lurking reader) think source impedance is
> >important, please explain in detail _why_.
>
> The self-same NEGATIVE feedback, lacking in retail rigs, would
> accomplish any form of improvement at the cost of what H.W. Bode
> called "noise gain." The dollar cost is not inconsequential. Not
> much more detail is needed for the average Ham.
>
> For the better than average Ham, the increase in NEGATIVE feedback,
> goes directly to lowering:
> Gain,
> Power out (as a function of following gain),
> Bandwidth (as a function of following gain),
> Distortion,
> Power supply disturbance,
> Noise,
> Input Z (or through clever design, raising it),
> Output Z (or through clever design, raising it),
> while increasing cost in near or GREATER proportion.
>
> Every Ham knows the adage that there is no such thing as a free lunch,
> and the marketplace enforces that without exception.
>
> *
>
> On Mon, 25 Apr 2011 18:07:59 -0700, Jim Lux <james.p....@jpl.nasa.gov>
> wrote:
>
> >ON9CVD made some simple measurements using a couple of resistors and
> >foudn that a TS440 has a Zout somewhere around 15-40 ohms (depending on
> >frequency and output power).
> >http://sharon.esrac.ele.tue.nl/~on9cvd/E-Uitgangsimpedantie.htm
>
> Let's see here, a reported source Z as low as 15 (let's just call it

> 20) Ohms with 100W into 50 Ohms. I have read an explanation that this
> is impossible (or improbable) for RF from a retail HF rig (such as a
> TS440), but achievable at AF.
>
> Meanwhile, back at the tennis match....

I just see such a series of postings as seperating myths from facts,
but maybe we have different fantasy....

>
> 73's
> Richard Clark, KB7QHC

Wim
PA3DJS

1118. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-15 20:42:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <101adb7e-ca02-4917-a81a-eb860a621b7f@u26g2000vby.googlegroups.com>
Source record: 4919

On May 14, 1:56 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Now you can forget the whole reflected power story.

Which is exactly what most people do - just forget the problem and hope it will go away. Some have said just to calculate the voltage/current and the energy (or power) will take care of itself. What this requires is ignorance of the well-known laws of physics from the field of optics. When one understands the laws of physics that effect the boundary conditions for RF waves including the role of interference, all of the component energies can be easily tracked through a system in the same manner the track irradiance through an optical system because they cannot measure the voltages and currents. Method#1 is the way most RF engineers analyze a problem. Method#2 is the way optical physicists are forced to solve the problem.

Method#1: Calculate the voltages and currents and superpose them. (One way is using s-parameter voltage equations.) Calculate power at the end of this process.

Method#2: Calculate the irradiances (power densities) and merge them together using the irradiance equations. The irradiance equations are what one gets when one squares the s-parameter normalized voltage equations.

When you say "forget reflected power", you are asking people to forget the ExH power contained in every EM wave. You are asking people to forget that EM waves must necessarily travel at the speed of light in the medium, i.e. component EM wave energy cannot stand still in standing waves. You are asking people to forget the conservation of energy principle.

Earlier I suggested that we concentrate on a simpler lossless example that doesn't involve the source impedance at all. It doesn't matter what the source impedance is. All that matters is that the source is delivering 70.707 volts to the 50 ohm feedline. Here it is again:

100W--50ohm--+--1/4WL 100ohm--200 ohm load

During steady-state, Pfwd is 100w and Pref is 0 watts on the 50 ohm line. Pfwd is 112.5w and Pref is 12.5w on the 100 ohm line. Exactly what happens at the Z0-match point '+' to reverse the flow of that 12.5w reflected power wave? (There are no RF source or DC supply arguments behind which to hide.) The reflected voltage reflection coefficient at point '+' is -0.3333, i.e. the negative of the forward voltage reflection coefficient at the load.

The ExH power (Poynting vector) in the reflected wave from the load is 12.5 watts. It is necessarily traveling toward the source at the speed of light in the Z0=100 ohm medium. It necessarily contains measurable real-world energy and momentum. Exactly what happens at point '+' to reverse the momentum and energy flow of that reflected EM wave? All the arguments in the world about what happens in the source has not answered that question and this example doesn't involve the source at all.

> I do generally not agree on this one, please convert your Thevenin
> source to a Norton source.

Sorry, that particular source was not my choice but was instead W7EL's choice in his food-for-thought series. He specifically states he is NOT talking about any equivalent circuit but is instead talking about a good approximation to a real-world source with a 50 ohm source resistance.

I do not see how the above energy flow problem/example can be solved without an understanding of the principles of interference (covered in section 4.3 of "Reflections" by Walter Maxwell. If you can adequately answer the questions without any direct or implied reference to interference, you will be the first I know of on ham newsgroups to have done so. Hint: squaring the s-parameter equations yields those interference power terms. If you choose not to respond to this simpler example, I will understand your reasons based on "forgetting reflected power".
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1119. It's how I want it

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-15 21:11:45 UTC
From: aa7bq <aa7bq@qrz.com>
Message-ID: <4DD04191.8050309@qrz.com>
Source record: 4920

This is in regards to the thread on qrz.com.

I have started sending this to members of the site. Are you going to address this issue? If not the next step will be the sponsers. I wonder what a capitalistic business will think of the sensorship on an opinion page. I'm not going to stop this campaign untill you reign in your mods. There is no reason that they just up and shut down some of the threads that they shut down. And if a thread is shut down there should be more of an explanation other than, "I don't like it. I can shut it down and I deem it so". Address this issue openly on the board. If not. Let the games begin.

Opinions and Editorials
New Hams

If this is what the MEMBERS of the board want to discuss on the, now read this part twice if you must. "Opinions and Editorials" section of the forum than we will do it regardless of what you say, do or think. These are our OPINIONS on the issues of the day. Whatever that may be. You and the other mods need to grow some rhino skin and just learn to ignore posts that you don't care for and stop being a tin star sheriff who thinks his ass weighs a ton. Build a bridge. Get over it and your self. We all ignore posts that we don't care for. We are adults. Evidently you are incapable of doing so. and don't give me this crap about it being for the greater good of the masses. You sobs sound more and more like our elected officials every day. We will, for the most part self regulate ourselves. I see it as just a power trip for you and the other mods. I do agree in some regulation on the board but on a forum that has the word "OPINION' in it. Come on, lets be real. It will run it's course all on it's own. I speak for more than a few on the board. You think you are way more important than you really are. Open the thread back up and watch what happens. It will get old eventually and revisited occasionally but so what!? It is an OPINION page! Just because you don't care for it is pretty much saying that we are only allowed to post things that suite your opinions. And that sheriff is utter BS. When you lay down in bed tonight think about a purple horse, first that is something that you will never get out of your head and second think about how utterly controlling you are being on a forum titled "Opinion". Think man think! What your doing here is no way to run a board. It is a power thing on your end regardless of how you want to justify it.

It is strongly urged to reconsider the closing of the thread and others that have been closed for reasoning that can only be understood by the mods. I guess you are a little like the Government, You seem to think

that only you know what is good for us. What a bunch of crap.

Go to the site and see for your self. Hammer the point home. Just asking for a little help fellow hams. www.qrz.com

1120. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-15 22:02:54 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <13fbdfdb-8a0e-4712-b8f8-6900059a52ed@f15g2000pro.googlegroups.com>
Source record: 4921

On May 14, 12:36 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 14 May 2011 11:30:50 -0700 (PDT), K7ITM <k7...@msn.com> wrote:
> >FWIW, I've built audio amplifiers with output transistors with f-sub-t
> >around 50MHz. Those transistors certainly would provide decent power
> >gain at the lower frequency HF ham bands. They were used in the audio
> >amp to achieve very low distortion across the audio spectrum (a very
> >few PPM at full rated power output).
>
> Hi Tom,
>
> An Answer to one of my questions (and by inference two of them)!
>
> The inference is there is NO transition frequency where source Z
> becomes trivial/meaningful. Hence, statements alleging correlations
> at one end of the spectrum must be observed at the other end.
>
> If this is disputed, we (or at least I) would certainly like to see
> what that transition frequency is.
>
> >One big difference between (typical) audio amplifiers and (typical) RF
> >power amplifiers is in the use of negative feedback. In an audio
> >amplifier, voltage-derived negative feedback yields a very low
> >amplifier output impedance. In almost all RF power amplifiers, little
> >or no negative feedback is used, so the output impedance is generally
> >much higher than with an audio amplifier running similar power and
> >supply voltage to the output devices.
>
> Well, at the RF finals deck, before the Z transformer, there is slight
> to no difference in output impedance. Both are sub-Ohm.
>
> >But again, the source impedance of a transmitter is seldom important
> >in the application of the amplifier.
>
> This seems at odds with other writers - if it is an AF amplifier. And
> yet none seem to be able to describe the transition frequency for
> identical designs (such as yours above, or as close to it as
> practicable) where it DOES become important (higher output power, as
> if any Ham would snub that advantage if (s)he could snip out the Z
> transformer in the rig).
>
> One still unanswered question remains that if a low output Z is so
> beneficial to achieving higher output power (a claim that none seem
> ready to dispute), then why the step up in Z from the finals deck to
> the output connector? I have read an explanation from Wim, but it

> fails as an argument for AF where a similar mismatch between source
> and load is observed - and yet this mismatch is the greatest quality
> for an amplifier since sliced bread.
>
> AF - RF A curious tennis match here where what going over the net in
> this game is a golf ball in one direction, and a basketball in the
> other.
>
> >What's important are things like
> >the optimal load impedance and the rated power output. I'd put things
> >like distortion specs for a linear amp far above source impedance in
> >importance. If you (the lurking reader) think source impedance is
> >important, please explain in detail _why_.
>
> The self-same NEGATIVE feedback, lacking in retail rigs, would
> accomplish any form of improvement at the cost of what H.W. Bode
> called "noise gain." The dollar cost is not inconsequential. Not
> much more detail is needed for the average Ham.
>
> For the better than average Ham, the increase in NEGATIVE feedback,
> goes directly to lowering:
> Gain,
> Power out (as a function of following gain),
> Bandwidth (as a function of following gain),
> Distortion,
> Power supply disturbance,
> Noise,
> Input Z (or through clever design, raising it),
> Output Z (or through clever design, raising it),
> while increasing cost in near or GREATER proportion.
>
> Every Ham knows the adage that there is no such thing as a free lunch,
> and the marketplace enforces that without exception.
>
> *
>
> On Mon, 25 Apr 2011 18:07:59 -0700, Jim Lux <james.p....@jpl.nasa.gov>
> wrote:
>
> >ON9CVD made some simple measurements using a couple of resistors and
> >foudn that a TS440 has a Zout somewhere around 15-40 ohms (depending on
> >frequency and output power).
> >http://sharon.esrac.ele.tue.nl/~on9cvd/E-Uitgangsimpedantie.htm
>
> Let's see here, a reported source Z as low as 15 (let's just call it
> 20) Ohms with 100W into 50 Ohms. I have read an explanation that this
> is impossible (or improbable) for RF from a retail HF rig (such as a
> TS440), but achievable at AF.
>
> Meanwhile, back at the tennis match....

>
> 73's
> Richard Clark, KB7QHC

I don't get why you're so hung up on some transition frequency between "RF" and "audio" amplifiers. You're looking at it in the wrong dimension. Think instead of the loads they drive. Speakers (the usual load for audio power amplifiers) work best when driven by a voltage source, so audio amplifiers are designed to look like voltage sources. With antenna systems, it doesn't much matter what the source impedance of the driving amplifier is -- as long as the transmitted bandwidth is small compared with 1/(transmission line time delay) [question to ponder: why would I care about that?] -- so RF amplifiers of the sort we normally use are simply not designed with an eye toward providing any particular output impedance.

You're probably well aware that there are times when I'm personally extremely concerned about providing an RF source that has a well-controlled output impedance (pretty much always 50 ohms, just because of how it's used, but could just as well be 75 ohms, or 100 ohms balanced, or some other specific impedance). That's not the case for the lion's share of ham applications, not even in sources used for simple impedance measurements. There are a few situations in which a ham might legitimately care about transmitter/amplifier output impedance, but they are relatively rare. I'm willing to listen to arguments to the contrary, but have yet to see any convincing ones.

Be careful what you say about the effects of negative feedback added around an amplifier... (That could be a reasonable topic in another group, but not in this thread, and probably not even in this group.)

Cheers,
Tom

1121. Re: It's how I want it

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-15 22:10:51 UTC
From: david <none@nospam.com>
Message-ID: <iqpj1ajmg1@dont-email.me>
Source record: 4922

On Sun, 15 May 2011 17:11:45 -0400, aa7bq rearranged some electrons to
say:

> This is in regards to the thread on qrz.com.
>
> I have started sending this to members of the site. Are you going to
> address this issue? If not the next step will be the sponsers. I wonder
> what a capitalistic business will think of the sensorship on an opinion
> page. I'm not going to stop this campaign untill you reign in your mods.
> There is no reason that they just up and shut down some of the threads
> that they shut down. And if a thread is shut down there should be more
> of an explanation other than, "I don't like it. I can shut it down and I
> deem it so". Address this issue openly on the board. If not. Let the
> games begin.
>
> Opinions and Editorials
> New Hams
>
>
>
> If this is what the MEMBERS of the board want to discuss on the, now
> read this part twice if you must. "Opinions and Editorials" section of
> the forum than we will do it regardless of what you say, do or think.
> These are our OPINIONS on the issues of the day. Whatever that may be.
> You and the other mods need to grow some rhino skin and just learn to
> ignore posts that you don't care for and stop being a tin star sheriff
> who thinks his ass weighs a ton. Build a bridge. Get over it and your
> self. We all ignore posts that we don't care for. We are adults.
> Evidently you are incapable of doing so. and don't give me this crap
> about it being for the greater good of the masses. You sobs sound more
> and more like our elected officials every day. We will, for the most
> part self regulate ourselves. I see it as just a power trip for you and
> the other mods. I do agree in some regulation on the board but on a
> forum that has the word "OPINION' in it. Come on, lets be real. It will
> run it's course all on it's own. I speak for more than a few on the
> board. You think you are way more important than you really are. Open
> the thread back up and watch what happens. It will get old eventually
> and revisited occasionally but so what!? It is an OPINION page! Just
> because you don't care for it is pretty much saying that we are only
> allowed to post things that suite your opinions. And that sheriff is
> utter BS. When you lay down in bed tonight think about a purple horse,
> first that is something that you will never get out of your head and
> second think about how utterly controlling you are being on a forum
> titled "Opinion". Think man think! What your doing here is no way to run

> a board. It is a power thing on your end regardless of how you want to
> justify it.
>
> It is strongly urged to reconsider the closing of the thread and others
> that have been closed for reasoning that can only be understood by the
> mods. I guess you are a little like the Government, You seem to think
> that only you know what is good for us. What a bunch of crap.
>
> Go to the site and see for your self. Hammer the point home. Just asking
> for a little help fellow hams. www.qrz.com

Not sure exactly what thread you're referring to, but qrz.com is a not a public forum, it is a privately owned website, so, the owners can do what they want with it.

1122. Re: It's how I want it

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-15 22:13:10 UTC
From: david <none@nospam.com>
Message-ID: <iqpj5mjmi2@dont-email.me>
Source record: 4923

On Sun, 15 May 2011 22:10:51 +0000, david rearranged some electrons to
say:

> On Sun, 15 May 2011 17:11:45 -0400, aa7bq rearranged some electrons to
> say:
>
>> This is in regards to the thread on qrz.com.
>>
>> I have started sending this to members of the site. Are you going to
>> address this issue? If not the next step will be the sponsers. I wonder
>> what a capitalistic business will think of the sensorship on an opinion
>> page. I'm not going to stop this campaign untill you reign in your
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>> threads that they shut down. And if a thread is shut down there should
>> be more of an explanation other than, "I don't like it. I can shut it
>> down and I deem it so". Address this issue openly on the board. If not.
>> Let the games begin.
>>
>> Opinions and Editorials
>> New Hams
>>
>>
>>
>> If this is what the MEMBERS of the board want to discuss on the, now
>> read this part twice if you must. "Opinions and Editorials" section of
>> the forum than we will do it regardless of what you say, do or think.
>> These are our OPINIONS on the issues of the day. Whatever that may be.
>> You and the other mods need to grow some rhino skin and just learn to
>> ignore posts that you don't care for and stop being a tin star sheriff
>> who thinks his ass weighs a ton. Build a bridge. Get over it and your
>> self. We all ignore posts that we don't care for. We are adults.
>> Evidently you are incapable of doing so. and don't give me this crap
>> about it being for the greater good of the masses. You sobs sound more
>> and more like our elected officials every day. We will, for the most
>> part self regulate ourselves. I see it as just a power trip for you and
>> the other mods. I do agree in some regulation on the board but on a
>> forum that has the word "OPINION' in it. Come on, lets be real. It will
>> run it's course all on it's own. I speak for more than a few on the
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>> the thread back up and watch what happens. It will get old eventually
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>> first that is something that you will never get out of your head and
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>> It is strongly urged to reconsider the closing of the thread and others
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>>
>> Go to the site and see for your self. Hammer the point home. Just
>> asking for a little help fellow hams. www.qrz.com
>
> Not sure exactly what thread you're referring to, but qrz.com is a not a
> public forum, it is a privately owned website, so, the owners can do
> what they want with it.

Now I get it... you're the owner of QRZ, and you don't like what some of
the moderators are doing?

1123. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 00:54:44 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iqpskm$6og$1@dont-email.me>
Source record: 4924

On 5/15/2011 3:42 PM, Cecil Moore wrote:
> On May 14, 1:56 pm, Wimpie<wimabc...@tetech.nl> wrote:
>> Now you can forget the whole reflected power story.
>
> Which is exactly what most people do - just forget the problem and
> hope it will go away. Some have said just to calculate the voltage/
> current and the energy (or power) will take care of itself. What this
> requires is ignorance of the well-known laws of physics from the field
> of optics. When one understands the laws of physics that effect the
> boundary conditions for RF waves including the role of interference,
> all of the component energies can be easily tracked through a system
> in the same manner the track irradiance through an optical system
> because they cannot measure the voltages and currents. Method#1 is the
> way most RF engineers analyze a problem. Method#2 is the way optical
> physicists are forced to solve the problem.
>
> Method#1: Calculate the voltages and currents and superpose them. (One
> way is using s-parameter voltage equations.) Calculate power at the
> end of this process.
>
> Method#2: Calculate the irradiances (power densities) and merge them
> together using the irradiance equations. The irradiance equations are
> what one gets when one squares the s-parameter normalized voltage
> equations.
>
> When you say "forget reflected power", you are asking people to forget
> the ExH power contained in every EM wave. You are asking people to
> forget that EM waves must necessarily travel at the speed of light in
> the medium, i.e. component EM wave energy cannot stand still in
> standing waves. You are asking people to forget the conservation of
> energy principle.
>
> Earlier I suggested that we concentrate on a simpler lossless example
> that doesn't involve the source impedance at all. It doesn't matter
> what the source impedance is. All that matters is that the source is
> delivering 70.707 volts to the 50 ohm feedline. Here it is again:
>
> 100W--50ohm--+--1/4WL 100ohm--200 ohm load

It is a 100 ohm feedline. The impedance at the + point looking toward
the load is 50 ohms. The 100 W source will see the first 50 ohms and
then the impedance at the + point. The total impedance seen by the
source is therefore 100 ohms. A 100 W source will deliver 100V to this
100 ohm combination and 50V of it will appear at the + point. Where does

the 70.707V come from?

John

1124. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 00:58:53 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iqpssf$88u$1@dont-email.me>
Source record: 4925

On 5/15/2011 5:02 PM, K7ITM wrote:

> Be careful what you say about the effects of negative feedback added
> around an amplifier... (That could be a reasonable topic in another
> group, but not in this thread, and probably not even in this group.)
>
> Cheers,
> Tom

Tom -

Because it is difficult to achieve stability or proper operation due to phase shifts at RF?

John

1125. Re: It's how I want it

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 01:01:11 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <iqpt0j$9g9$7@dont-email.me>
Source record: 4926

On 5/15/2011 2:11 PM, aa7bq wrote:

> ...
> It is strongly urged to reconsider the closing of the thread and others
> that have been closed for reasoning that can only be understood by the
> mods. I guess you are a little like the Government, You seem to think
> that only you know what is good for us. What a bunch of crap.
>
> Go to the site and see for your self. Hammer the point home. Just asking
> for a little help fellow hams. www.qrz.com
>

Just think of it this way, in NGs, if you don't like to view something/someones-text, you simply plonk them.

On a private site, if you don't like what someone else says, you can stop everyone else from seeing what they say -- IF you are a moderator. (Moderated NGs serve the same function(s) i.e., you can control what other people say, and who views it.)

Your only error is giving others the right to censor what you see, and then complaining about it! If you don't like it, don't empower them ...

Regards,
JS

1126. Re: It's how I want it

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 01:03:17 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iqpt4m$a05$1@dont-email.me>
Source record: 4927

On 5/15/2011 4:11 PM, aa7bq wrote:

We have enough politics of our own. Please don't bring us any more.

John

1127. Re: It's how I want it

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 01:07:20 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnit0u68.1uof.knock_yourself_out@shell.config.com>
Source record: 4928

On Sun, 15 May 2011 17:11:45 -0400, aa7bq wrote:
> This is in regards to the thread on qrz.com.

Then why, in bloody blue blazes, do you feel it should
pollute the usenet newsgroup rec.radio.amateur.antenna?

> <- snip big rant ->

(probably a write-only poster, anyway...)

1128. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 11:03:27 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <f5435ae2-7608-4c29-85bd-a53f660e2456@y4g2000yqm.googlegroups.com>
Source record: 4929

On 15 mayo, 22:42, Cecil Moore <w5...@hotmail.com> wrote:
> On May 14, 1:56 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Now you can forget the whole reflected power story.
>
> Which is exactly what most people do - just forget the problem and
> hope it will go away. Some have said just to calculate the voltage/
> current and the energy (or power) will take care of itself. What this
> requires is ignorance of the well-known laws of physics from the field
> of optics. When one understands the laws of physics that effect the
> boundary conditions for RF waves including the role of interference,
> all of the component energies can be easily tracked through a system
> in the same manner the track irradiance through an optical system
> because they cannot measure the voltages and currents. Method#1 is the
> way most RF engineers analyze a problem. Method#2 is the way optical
> physicists are forced to solve the problem.
>
> Method#1: Calculate the voltages and currents and superpose them. (One
> way is using s-parameter voltage equations.) Calculate power at the
> end of this process.
>
> Method#2: Calculate the irradiances (power densities) and merge them
> together using the irradiance equations. The irradiance equations are
> what one gets when one squares the s-parameter normalized voltage
> equations.
>
> When you say "forget reflected power", you are asking people to forget
> the ExH power contained in every EM wave. You are asking people to
> forget that EM waves must necessarily travel at the speed of light in
> the medium, i.e. component EM wave energy cannot stand still in
> standing waves. You are asking people to forget the conservation of
> energy principle.
>
> Earlier I suggested that we concentrate on a simpler lossless example
> that doesn't involve the source impedance at all. It doesn't matter
> what the source impedance is. All that matters is that the source is
> delivering 70.707 volts to the 50 ohm feedline. Here it is again:
>
> 100W--50ohm--+--1/4WL 100ohm--200 ohm load
>
> During steady-state, Pfwd is 100w and Pref is 0 watts on the 50 ohm
> line. Pfwd is 112.5w and Pref is 12.5w on the 100 ohm line. Exactly
> what happens at the Z0-match point '+' to reverse the flow of that
> 12.5w reflected power wave? (There are no RF source or DC supply

> arguments behind which to hide.) The reflected voltage reflection
> coefficient at point '+' is -0.3333, i.e. the negative of the forward
> voltage reflection coefficient at the load.
>
> The ExH power (Poynting vector) in the reflected wave from the load is
> 12.5 watts. It is necessarily traveling toward the source at the speed
> of light in the Z0=100 ohm medium. It necessarily contains measurable
> real-world energy and momentum. Exactly what happens at point '+' to
> reverse the momentum and energy flow of that reflected EM wave? All
> the arguments in the world about what happens in the source has not
> answered that question and this example doesn't involve the source at
> all.
>
> > I do generally not agree on this one, please convert your Thevenin
> > source to a Norton source.
>
> Sorry, that particular source was not my choice but was instead W7EL's
> choice in his food-for-thought series. He specifically states he is
> NOT talking about any equivalent circuit but is instead talking about
> a good approximation to a real-world source with a 50 ohm source
> resistance.
>
> I do not see how the above energy flow problem/example can be solved
> without an understanding of the principles of interference (covered in
> section 4.3 of "Reflections" by Walter Maxwell. If you can adequately
> answer the questions without any direct or implied reference to
> interference, you will be the first I know of on ham newsgroups to
> have done so. Hint: squaring the s-parameter equations yields those
> interference power terms. If you choose not to respond to this simpler
> example, I will understand your reasons based on "forgetting reflected
> power".
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

I'm rather familiar with S-parameters and unbounded EM phenomena. We are discussing coaxial cables with very small diameter with respect to wavelength, therefore full TEM condition is applicable, even some small distance left or right from a discontinuity. So you can fully replace E cross H by a voltage and current approach (as is used in any vector network analyser).

Regarding impedance, reflection coefficient and interference issues; when you know one of the two (and Z0), you can calculate the other (of course you need to consider phase). All interference issues are accounted for in Z, given a transmission line impedance (Z0).

Transmission line theory is not a goal, but just a means to reach your goal. It is fully acceptable to convert Ref.Coef. to Z (and vice

versa) to efficiently solve your problem. So when you convert an RC to a Z, you can forget all transmission line calculations that you used to find that Z. As Tom mentioned, we are discussing narrow band systems, not wide band transmission systems.

I am not ignoring a problem (as you suggested), I am just using the right tool to solve a problem. I remember from several people, the best Engineer is the one that knows what things he has to take into account and what things he can ignore. You introduced optics here, are you going to introduce QM also to show that I (and some others) are completely wrong w.r.t to PA output impedance?

Cecil, I think you have sufficient knowledge to form an opinion without hiding behind others. You also have the equipment to figure out some things yourself, and I gave some hints to help you. The only question is, are you willing to do this?

With kind regards,

Wim
PA3DJS
www.tetech.nl

1129. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 11:54:59 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <afe32b1f-fdcf-4e11-86d7-968c26afc4f3@c41g2000yqm.googlegroups.com>
Source record: 4930

On May 15, 7:54 pm, John KD5YI <soph...@invalid.org> wrote:
> > 100W--50ohm--+--1/4WL 100ohm--200 ohm load
>
> It is a 100 ohm feedline. The impedance at the + point looking toward
> the load is 50 ohms. The 100 W source will see the first 50 ohms and
> then the impedance at the + point. The total impedance seen by the
> source is therefore 100 ohms. A 100 W source will deliver 100V to this
> 100 ohm combination and 50V of it will appear at the + point. Where does
> the 70.707V come from?

I said: "All that matters is that the source is delivering 70.707
volts to the 50 ohm feedline." That would be at the source SO-239
terminal to PL-259 50 ohm coax junction. I did *NOT* say there is
70.7v on the Z0=100 ohm feedline. There is indeed 100 volts on the
Z0=100 ohm line.

The source is Z0 matched to 50 ohms and is
delivering 70.707 volts and 1.414 amps to the 50 ohm coax.
70.7/1.414=50 ohms. 70.7*1.414=100 watts.

Here is a better diagram:

http://www.w5dxp.com/enfig1.gif

Pfor1=100w, Pref1=0, Z01=50 ohms, Z02=100 ohms and 1/4WL, Load=200
ohms. Everything except the load is lossless.

I apologize if my one line diagram was confusing. It is extremely
difficult to draw ASCII schematics using a proportional font.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1130. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 14:15:22 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6ae258d7-1858-4e32-b6a2-36b8ef8f7c56@r35g2000prj.googlegroups.com>
Source record: 4931

On May 16, 6:03 am, Wimpie <wimabc...@tetech.nl> wrote:
> I am not ignoring a problem (as you suggested), I am just using the
> right tool to solve a problem.

I'm sorry, Wim, that is just not true. When you convert a V/I ratio to a lumped circuit impedance, you are switching models in mid-example and it changes everything in one direction (while keeping conditions the same in the other direction). Switching to a model that doesn't recognize reflections at all when a question about reflections arises is an obvious logical diversion. The lumped-circuit model does not recognize reflected energy and therefore does not allow the tracking of reflected energy. The distributed network/wave reflection model does allow for the tracking of reflected energy and was developed because of the limitations of the lumped circuit model.

I will buy your assertion that one can use voltage and current to achieve the same thing if one is careful not to violate the known laws of EM wave physics. In my example, the reflected power on the 100 ohm line is 12.5 watts. The reflected voltage is 35.35 volts. The reflected current is 0.3535. The reflected voltage and reflected current are 180 degrees out of phase so the power is real, i.e. cos(180)=1.0, and the reflected wave has a Poynting vector magnitude of 12.5 watts (per coax cross-sectional area).

In my very simple example, there is no reflected power on the 50 ohm feedline yet there is (35.35)(0.3535)=12.5 watts of reflected power from the load incident upon the 100/50 ohm impedance discontinuity. I ask you again: Exactly what phenomenon of EM wave physics causes the reflected wave to *reverse* its momentum and direction of energy flow when the magnitude of the reflection coefficient is 0.3333? As long as you refuse to answer this simple question about such a simple example, this discussion will go nowhere.

> Cecil, I think you have sufficient knowledge to form an opinion
> without hiding behind others. You also have the equipment to figure
> out some things yourself, and I gave some hints to help you. The only
> question is, are you willing to do this?

If you cannot answer the simple question about what happens to the reflected energy at a simple passive impedance discontinuity, I am not about to trust your assertions about what happens inside an active source. Trying to introduce a more complicated example while refusing to deal with the very simple example that I provided is an obvious and typical logical diversion. Again, I am not going to cooperate in your attempts at diversions. If you don't know why reflected energy reverses momentum and direction at a passive Z0-match, just say so.

Here's an easier example: Two EM waves superpose in a Z0=100 ohm environment. Each wave is 100 volts at 1 amp = 100 watts. The phase angle on wave1 is +60 degrees and the phase angle on wave2 is -60 degrees. The superposition results in a new wave of 100 volts at 1 amp = 100 watts with a phase angle of zero degrees.

We superposed two 100 watt waves and the result was one 100 watt wave. What happened to the other 100 watts?
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1131. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 15:07:18 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b845c75a-de29-4606-8a9f-fbe0002c7b06@h9g2000yqk.googlegroups.com>
Source record: 4932

On 16 mayo, 16:15, Cecil Moore <w5...@hotmail.com> wrote:
> On May 16, 6:03 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > I am not ignoring a problem (as you suggested), I am just using the
> > right tool to solve a problem.
>
> I'm sorry, Wim, that is just not true. When you convert a V/I ratio to
> a lumped circuit impedance, you are switching models in mid-example
> and it changes everything in one direction (while keeping conditions
> the same in the other direction). Switching to a model that doesn't
> recognize reflections at all when a question about reflections arises
> is an obvious logical diversion. The lumped-circuit model does not
> recognize reflected energy and therefore does not allow the tracking
> of reflected energy. The distributed network/wave reflection model
> does allow for the tracking of reflected energy and was developed
> because of the limitations of the lumped circuit model.
>
> I will buy your assertion that one can use voltage and current to
> achieve the same thing if one is careful not to violate the known laws
> of EM wave physics. In my example, the reflected power on the 100 ohm
> line is 12.5 watts. The reflected voltage is 35.35 volts. The
> reflected current is 0.3535. The reflected voltage and reflected
> current are 180 degrees out of phase so the power is real, i.e.
> cos(180)=1.0, and the reflected wave has a Poynting vector magnitude
> of 12.5 watts (per coax cross-sectional area).
>
> In my very simple example, there is no reflected power on the 50 ohm
> feedline yet there is (35.35)(0.3535)=12.5 watts of reflected power
> from the load incident upon the 100/50 ohm impedance discontinuity. I
> ask you again: Exactly what phenomenon of EM wave physics causes the
> reflected wave to *reverse* its momentum and direction of energy flow
> when the magnitude of the reflection coefficient is 0.3333? As long as
> you refuse to answer this simple question about such a simple example,
> this discussion will go nowhere.
>
> > Cecil, I think you have sufficient knowledge to form an opinion
> > without hiding behind others. You also have the equipment to figure
> > out some things yourself, and I gave some hints to help you. The only
> > question is, are you willing to do this?
>
> If you cannot answer the simple question about what happens to the
> reflected energy at a simple passive impedance discontinuity, I am not
> about to trust your assertions about what happens inside an active
> source. Trying to introduce a more complicated example while refusing

> to deal with the very simple example that I provided is an obvious and
> typical logical diversion. Again, I am not going to cooperate in your
> attempts at diversions. If you don't know why reflected energy
> reverses momentum and direction at a passive Z0-match, just say so.

Hello Cecil,

I answered a simple question requested several times by Walt (I had to reply to it!). It wasn't my statement but I did it. The solution I gave involved both lumped circuit theory (to calculate the net power) and transmission line theory (to calculate forward and reflected power in a 50 Ohms environment).

Even other people had to help Walt to understand a voltage divider (the 212.1*50 issue). Maybe you can comment whether my simple solution (not involving momentum, Poynting vector or optics) is correct or not. I am familiar with the use (and mis-use by others) of the Poynting vector, but I don't discharge 10 kJ through a mosquito when using a newspaper does the job also.

Regarding reflections:
Does a PA see difference between:

1. 100 Ohms lumped circuit load
2. RC = +0.33333 (for 50 Ohms reference)
3. VSWR = 3 (voltage minimum, for a 300 Ohms reference)

The answer is no, all can be converted to 100 Ohms lumped circuit. What is in between the PA and the actual load is not relevant, what matters (for the PA) is what it sees at its SO239 socket.

Wim
PA3DJS
www.tetech.nl

1132. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 16:19:35 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <da18fb59-d655-4f80-af10-baaa5bc06fad@n10g2000yqf.googlegroups.com>
Source record: 4933

Hello Cecil,

> Here's an easier example: Two EM waves superpose in a Z0=100 ohm
> environment. Each wave is 100 volts at 1 amp = 100 watts. The phase
> angle on wave1 is +60 degrees and the phase angle on wave2 is -60
> degrees. The superposition results in a new wave of 100 volts at 1 amp
> = 100 watts with a phase angle of zero degrees.
>
> We superposed two 100 watt waves and the result was one 100 watt wave.
> What happened to the other 100 watts?

If you want this question answered, please open a new thread as it is
not relevant to the original question.

Maybe people will ask you a circuit diagram showing the sources and
the combiner circuitry to enable calculation of the net power
delivered by each source. Otherwise people may consider your problem
as a single incident wave problem (as for these type of steady state
signals you first add complex amplitudes, then calculate powers).

I did respond to Walt's request because it is on topic and I stated
that such thing can happen (without given a numerical example).

Wim
PA3DJS
www.tetech.nl

1133. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 18:08:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d83471ed-9081-46e9-a756-eb69801ecb65@q14g2000prh.googlegroups.com>
Source record: 4934

On May 16, 11:19 am, Wimpie <wimabc...@tetech.nl> wrote:

> The solution I gave involved both lumped circuit theory (to calculate
> the net power) and transmission line theory (to calculate forward
> and reflected power in a 50 Ohms environment).

Lumped circuit theory presupposes that waves do not exist and that RF energy travels instantaneously, faster than the speed of light. You seem to be ignoring the numerous laws of physics violated by the lumped circuit theory. You also seem to be ignoring the fact that when lumped circuit theory yields different results than the distributed network theory, distributed network theory always wins because it is closer to Maxwell's equations.

I gave an earlier CLC Pi-Network Tuner example that proved the lumped circuit model fails when reflections are present. EZNEC results are nothing alike when using the lumped inductance option vs the helical wire option for an inductance in a standing wave antenna.

> If you want this question answered, please open a new thread as it is
> not relevant to the original question.

Asserting that it is not relevant for the purpose of diversion will not make it go away. If one cannot understand, explain, and solve the simplest passive interference problem, how is one ever going to understand, explain, and solve the multiple levels of interference possible within an active source being invaded by reflected energy? If one cannot add one plus one, one is not likely to be able to add two plus two and something akin to that is what I am seeing here. Until one understands exactly how a Z0-match reverses the direction and momentum of a reflected wave, one will not understand what is happening inside a source with incident reflected energy. What is actually happening in reality is revealed when one sticks with the distributed network/wave reflection theory throughout the analysis. People who whine that such is too difficult have to be satisfied with a certain level of ignorance and inaccuracy.
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1134. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 19:42:40 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iqruni$a73$1@dont-email.me>
Source record: 4935

On 5/16/2011 6:54 AM, Cecil Moore wrote:
> On May 15, 7:54 pm, John KD5YI<soph...@invalid.org> wrote:
>>> 100W--50ohm--+--1/4WL 100ohm--200 ohm load
>>
>> It is a 100 ohm feedline. The impedance at the + point looking toward
>> the load is 50 ohms. The 100 W source will see the first 50 ohms and
>> then the impedance at the + point. The total impedance seen by the
>> source is therefore 100 ohms. A 100 W source will deliver 100V to this
>> 100 ohm combination and 50V of it will appear at the + point. Where does
>> the 70.707V come from?
>
> I said: "All that matters is that the source is delivering 70.707
> volts to the 50 ohm feedline." That would be at the source SO-239
> terminal to PL-259 50 ohm coax junction. I did *NOT* say there is
> 70.7v on the Z0=100 ohm feedline. There is indeed 100 volts on the
> Z0=100 ohm line.
>
> The source is Z0 matched to 50 ohms and is
> *delivering 70.707 volts and 1.414 amps to the 50 ohm coax*.
> 70.7/1.414=50 ohms. 70.7*1.414=100 watts.
>
> Here is a better diagram:
>
> http://www.w5dxp.com/enfig1.gif
>
> Pfor1=100w, Pref1=0, Z01=50 ohms, Z02=100 ohms and 1/4WL, Load=200
> ohms. Everything except the load is lossless.
>
> I apologize if my one line diagram was confusing. It is extremely
> difficult to draw ASCII schematics using a proportional font.
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Okay, so your source really looks like a a 100 W generator with no internal impedance but which feeds a 50 ohm line internally. Since the 200 ohm load appears as 50 ohms when fed with a 100 ohm 1/4WL line, there is a match and all the power appears at the load. In that case I agree with your 70.7 volts since 100 W into 50 ohms will result in that voltage.

But I have no need of reflections. The fact that a 200 ohm load appears as a 50 ohm load at the input of a 1/4WL 100 ohm line takes care of all that for me.

73,
John

1135. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 19:54:27 UTC
From: walt <walt@w2du.com>
Message-ID: <4c03ca16-7c23-41cb-a67f-d243eb7a3f6a@l2g2000prg.googlegroups.com>
Source record: 4936

On May 16, 3:42 pm, John KD5YI <soph...@invalid.org> wrote:
> On 5/16/2011 6:54 AM, Cecil Moore wrote:
>
>
>
>
>
>
>
>
>
>
> > On May 15, 7:54 pm, John KD5YI<soph...@invalid.org> wrote:
> >>> 100W--50ohm--+--1/4WL 100ohm--200 ohm load
>
> >> It is a 100 ohm feedline. The impedance at the + point looking toward
> >> the load is 50 ohms. The 100 W source will see the first 50 ohms and
> >> then the impedance at the + point. The total impedance seen by the
> >> source is therefore 100 ohms. A 100 W source will deliver 100V to this
> >> 100 ohm combination and 50V of it will appear at the + point. Where does
> >> the 70.707V come from?
>
> > I said: "All that matters is that the source is delivering 70.707
> > volts to the 50 ohm feedline." That would be at the source SO-239
> > terminal to PL-259 50 ohm coax junction. I did *NOT* say there is
> > 70.7v on the Z0=100 ohm feedline. There is indeed 100 volts on the
> > Z0=100 ohm line.
>
> > The source is Z0 matched to 50 ohms and is
> > *delivering 70.707 volts and 1.414 amps to the 50 ohm coax*.
> > 70.7/1.414=50 ohms. 70.7*1.414=100 watts.
>
> > Here is a better diagram:
>
> >http://www.w5dxp.com/enfig1.gif
>
> > Pfor1=100w, Pref1=0, Z01=50 ohms, Z02=100 ohms and 1/4WL, Load=200
> > ohms. Everything except the load is lossless.
>
> > I apologize if my one line diagram was confusing. It is extremely
> > difficult to draw ASCII schematics using a proportional font.
> > --
> > 73, Cecil, w5dxp.com
> > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>

> Okay, so your source really looks like a a 100 W generator with no
> internal impedance but which feeds a 50 ohm line internally. Since the
> 200 ohm load appears as 50 ohms when fed with a 100 ohm 1/4WL line,
> there is a match and all the power appears at the load. In that case I
> agree with your 70.7 volts since 100 W into 50 ohms will result in that
> voltage.
>
> But I have no need of reflections. The fact that a 200 ohm load appears
> as a 50 ohm load at the input of a 1/4WL 100 ohm line takes care of all
> that for me.
>
> 73,
> John

Sorry John, you can't cut it without the reflections. They may be invisible to you, but they're there doing the work. The 1/4wl line transformer works only with reflections. If you'll give me your email address I'll send you a graph showing how the reflections perform the matching. The actions of the reflections from either end of the transformer is what performs the matching function. The action of the reflections is as necessary to the function as breathing is to life. Believe it!!!

Walt

1136. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 19:55:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a6b4efda-a3f3-482c-af85-0e229137198b@q12g2000prb.googlegroups.com>
Source record: 4937

On May 16, 2:42 pm, John KD5YI <soph...@invalid.org> wrote:
> But I have no need of reflections. The fact that a 200 ohm load appears
> as a 50 ohm load at the input of a 1/4WL 100 ohm line takes care of all
> that for me.

There's no argument/discussion about that. The question is: Exactly
what happens at the 50 ohm Z0-match to reverse the direction and
momentum of the reflected wave resulting in no reflections on the 50
ohm line? Hint: it is exactly what happens with non-reflective glass
where the 1/4WL thin-film coating cancels the reflections through
destructive interference. Why not alleviate ignorance by taking
advantage of those well understood facts of EM wave physics from the
field of optics?

micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
waveinteractions/index.html
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1137. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 19:58:23 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <8ae55d26-67f9-4683-9061-ab05233dc380@28g2000yqu.googlegroups.com>
Source record: 4938

Cecil,

It seems that you on purpose remove/ignore things that you don't like, but (you know) are true.

A CLC pi filter doesn't know the difference between:

1. 100 Ohms lumped circuit load
2. RC = +0.33333 (for 50 Ohms reference)
3. VSWR = 3 (voltage minimum, for a 300 Ohms reference)

It seems you don't want to notice that.

That it is convenient to use transmission line theory to calculate the load as seen by a PA when transmission line sections are involved, is OK, I didn't deny that.

That lumped circuit theory has limitations is fully understood. Frequently transmission line effects are modelled using parasitic L and C additions yielding accurate models valid up to GHz frequencies (depending on the size of the component). We are below 30 MHz (for this topic).

Here the experience of the Engineer comes into play: when you can use a lumped circuit model and when you need to use transmission line models (the particle/wave issue is similar)?

A helical inductor of an antenna no longer small w.r.t. wavelength may be better modelled with transmission line theory, but that is OT. Even the L of the CLC filter, you can model with a lumped circuit equivalent with more than sufficient accuracy. This is daily business for manufacturers of inductive components.

Generally, converting results from transmission line models to impedance in combination with lumped circuit theory to calculate the load as seen by the active device, is daily practice. Especially here, as we are dealing with narrow band signals and don't have to model the behavior for harmonics. But for some reason you don't want to see that, and you elevate transmission line theory to a goal.

So again, once you did the conversion to Z, you no longer have to worry about transmission line issues in the load or cabling (including reflection coefficient) when treating your PA's CLC pi filter.

Now speed of light becomes important in a CLC pi filter for a HF PA, when becomes "Gaussian" of importance (and may lose all the readers of this topic)?

With kind regards,

Wim
PA3DJS
www.tetech.nl

1138. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 20:29:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fafd0129-37c8-4841-837b-8cb53c286b6e@x6g2000yqj.googlegroups.com>
Source record: 4939

On May 16, 2:58 pm, Wimpie <wimabc...@tetech.nl> wrote:
> A CLC pi filter doesn't know the difference between:
>
> 1. 100 Ohms lumped circuit load
> 2. RC = +0.33333 (for 50 Ohms reference)
> 3. VSWR = 3 (voltage minimum, for a 300 Ohms reference)
>
> It seems you don't want to notice that.

It is not worth wasting my time to notice since *everyone* already knows that a CLC pi filter is not alive and doesn't have a brain so it must necessarily be dumb as a dead stump. You, OTOH, hopefully being smarter than the average CLC pi filter, should know that the conditions existing within a resistor are different from the conditions existing within an antenna with the same feedpoint impedance. Hint: If you don't know what is in the box, alleviate your ignorance by looking inside the box. If you put on the blinders and refuse to look, then you will make errors like you did earlier while measuring an s11 of zero when it was actually 0.3333.

> Even the L of the CLC filter, you can model with a lumped circuit
> equivalent with more than sufficient accuracy.

When the task is to determine the exact delay through the inductor, how the heck can the lumped circuit model tell you that?
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1139. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 20:55:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <899f46ff-0fe1-4dd9-b40b-09a68d2717fc@l14g2000pro.googlegroups.com>
Source record: 4940

On May 16, 3:29 pm, Cecil Moore <w5...@hotmail.com> wrote:
> When the task is to determine the exact delay through the inductor,
> how the heck can the lumped circuit model tell you that?

Wim, I forgot to note that using your stated methods, W8JI "measured"
a 3ns delay through a 10" long, 2" diameter, 100 turn, 100uh, 80m
mobile loading coil. Doesn't a 4 MHz RF wave traveling the length of a
large 100uH air-core 80m loading coil in 3 ns give you some pause for
reconsidering your methods? Every wonder why computer manufacturers
don't install 100uh coils in series with their computer bus lines to
speed up their computers? :-)
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1140. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 21:55:13 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <f61ff7cd-0201-4b35-9eff-d604fdf333db@v10g2000yqn.googlegroups.com>
Source record: 4941

On 16 mayo, 22:29, Cecil Moore <w5...@hotmail.com> wrote:
> On May 16, 2:58 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > A CLC pi filter doesn't know the difference between:
>
> > 1. 100 Ohms lumped circuit load
> > 2. RC = +0.33333 (for 50 Ohms reference)
> > 3. VSWR = 3 (voltage minimum, for a 300 Ohms reference)
>
> > It seems you don't want to notice that.
>
> It is not worth wasting my time to notice since *everyone* already
> knows that a CLC pi filter is not alive and doesn't have a brain so it
> must necessarily be dumb as a dead stump. You, OTOH, hopefully being
> smarter than the average CLC pi filter, should know that the
> conditions existing within a resistor are different from the
> conditions existing within an antenna with the same feedpoint
> impedance. Hint: If you don't know what is in the box, alleviate your
> ignorance by looking inside the box. If you put on the blinders and
> refuse to look, then you will make errors like you did earlier while
> measuring an s11 of zero when it was actually 0.3333.
>
> > Even the L of the CLC filter, you can model with a lumped circuit
> > equivalent with more than sufficient accuracy.
>
> When the task is to determine the exact delay through the inductor,
> how the heck can the lumped circuit model tell you that?

Just via the capacitance to ground (for example a CLC model of an
inductor well below the first self resonance frequency). But when
looking to a PA, there is often an additional capacitance left and
right of the inductor that causes the most of the phase shift. I did
some tesla coiling, so I am aware of the various models for single
layer inductors. You are further drifting away from the main subject
(PA output impedance and what mismatch will do).

> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Wim
PA3DJS
www.tetech.nl

1141. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 21:58:51 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c9651cbe-5527-4564-baa7-536031df906b@y19g2000yqk.googlegroups.com>
Source record: 4942

On 16 mayo, 22:55, Cecil Moore <w5...@hotmail.com> wrote:
> On May 16, 3:29 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > When the task is to determine the exact delay through the inductor,
> > how the heck can the lumped circuit model tell you that?
>
> Wim, I forgot to note that using your stated methods, W8JI "measured"
> a 3ns delay through a 10" long, 2" diameter, 100 turn, 100uh, 80m
> mobile loading coil. Doesn't a 4 MHz RF wave traveling the length of a
> large 100uH air-core 80m loading coil in 3 ns give you some pause for
> reconsidering your methods? Every wonder why computer manufacturers
> don't install 100uh coils in series with their computer bus lines to
> speed up their computers? :-)
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

I am sorry Cecil, but for the current topic, the answer is no. Please
stay to the topic, or start a new one.

Wim
PA3DJS
www.tetech.nl

1142. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 22:37:32 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ba7b003e-f15b-443b-aa5d-f309b27cd3a4@gu8g2000vbb.googlegroups.com>
Source record: 4943

On May 16, 4:55 pm, Wimpie <wimabc...@tetech.nl> wrote:
> You are further drifting away from the main subject

Actually, you are further drifting away from basic fundamental EM physics and I am not in the mood to follow you. Since you do not understand the basic fundamentals of EM wave interference, you cannot possibly understand what is going on inside an active source with invading reflected energy. You might as well be arguing that God causes everything because your lack of the understanding of the basic physics of interference causes your concepts to resemble religion more than anything scientific. That's not an ad hominen attack, just an observation based on the technical ignorance of EM wave interference that you have presented here on this newsgroup. Sorry for being so blunt but anyone who chooses to be ignorant, when there is knowledge available, doesn't deserve much respect, IMO.

Since you have failed to answer the simplest of questions about passive circuits, exactly what makes you an expert on active circuits?
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1143. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-16 23:20:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <45b3t6djmnkfrg08jkhf5mgq07u79tue4a@4ax.com>
Source record: 4944

On Sun, 15 May 2011 15:02:54 -0700 (PDT), K7ITM <k7itm@msn.com> wrote:

>I don't get why you're so hung up on some transition frequency between
>"RF" and "audio" amplifiers. You're looking at it in the wrong
>dimension.

Transition time, 1/f?

The point is the poor attempts to build a design argument against one
(RF) with the other (AF). Your response of using RF transistors for
AF application in nearly identical topologies suited the point: there
is NO transition frequency.

>Think instead of the loads they drive. Speakers (the
>usual load for audio power amplifiers) work best when driven by a
>voltage source, so audio amplifiers are designed to look like voltage
>sources. With antenna systems, it doesn't much matter what the source
>impedance of the driving amplifier is -- as long as the transmitted
>bandwidth is small compared with 1/(transmission line time delay)
>[question to ponder: why would I care about that?]

Everything to that last point was fine. I can well read the stylistic
irony and I wouldn't project that it was a curious hang up.

> -- so RF
>amplifiers of the sort we normally use are simply not designed with an
>eye toward providing any particular output impedance.

And yet challenges abound when one (Z) is chosen for any particular
design quality.

>You're probably well aware that there are times when I'm personally
>extremely concerned about providing an RF source that has a well-
>controlled output impedance (pretty much always 50 ohms, just because
>of how it's used, but could just as well be 75 ohms, or 100 ohms
>balanced, or some other specific impedance).

All perfectly reasonable choices, and driven by engineering and
application decisions too.

>That's not the case for
>the lion's share of ham applications, not even in sources used for
>simple impedance measurements.

?????

> There are a few situations in which a
>ham might legitimately care about transmitter/amplifier output

>impedance, but they are relatively rare. I'm willing to listen to
>arguments to the contrary, but have yet to see any convincing ones.

The length of any source Z thread more than proves your point about its care. Which is to say, few care (there we agree across the population of Hams), and there are those few who are vehement about not caring.

>Be careful what you say about the effects of negative feedback added
>around an amplifier... (That could be a reasonable topic in another
>group, but not in this thread, and probably not even in this group.)

I'm quite careful about the effects of negative feedback added around an amplifier. Dare I say that we can be thankful there are none vehement about not caring about that too?

73's
Richard Clark, KB7QHC

1144. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 00:03:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8ic3t69ss7jcnp5ovi0077rsraq10e2aat@4ax.com>
Source record: 4945

On Sun, 15 May 2011 02:27:26 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>Richard, who made that claim regarding that low output Z is so
>beneficial?

Wim, I offered a corrected thread reference, asked you if you had a
threaded newsreader to respond in-thread, and here we are in another
branch.

> I only said that
>many PAs don't operate under conjugated match (or even were not
>designed to operate under it).

You are being humble, you've written much more than that.

>This is valid for audio also.

Valid for diesel engine design, I suppose, too. Unfortunately,
introducing distraction to the Subject line brings increasingly
distractive responses.

However, I enjoy distraction and I can wrap it back to topic:

For instance, AF transmitters were used during WWI for (literal,
through the) ground communications. Shall we expand on that history
that IS relevant to Transmitter Output Impedance?

References:
http://www.qsl.net/vk3gjz/EarthComs/Artillery%20LOI.pdf
http://www.qsl.net/vk3gjz/EarthComs/GroundComs.pdf
and more....

I dare say that these links, and more, can return the discussion back
to Source Z matching that is intuitive, uses very real resistance, and
no appeals (at least back then) to reactance.

73's
Richard Clark, KB7QHC

1145. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 09:49:33 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c3b2ea10-1068-47f3-b351-1db0a7c94d9f@w21g2000yqm.googlegroups.com>
Source record: 4946

On 17 mayo, 00:37, Cecil Moore <w5...@hotmail.com> wrote:
> On May 16, 4:55 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > You are further drifting away from the main subject
>
> Actually, you are further drifting away from basic fundamental EM
> physics and I am not in the mood to follow you. Since you do not
> understand the basic fundamentals of EM wave interference, you cannot
> possibly understand what is going on inside an active source with
> invading reflected energy. You might as well be arguing that God
> causes everything because your lack of the understanding of the basic
> physics of interference causes your concepts to resemble religion more
> than anything scientific. That's not an ad hominen attack, just an
> observation based on the technical ignorance of EM wave interference
> that you have presented here on this newsgroup. Sorry for being so
> blunt but anyone who chooses to be ignorant, when there is knowledge
> available, doesn't deserve much respect, IMO.
>
> Since you have failed to answer the simplest of questions about
> passive circuits, exactly what makes you an expert on active circuits?
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Cecil,

For Walt I made an exception, but I normally don't do someone's
homework. I also don't spend my time solving non-relevant problems; I
have more interesting quests waiting. If you show up with a relevant
quest, maybe I am willing to dive into it.

I am not calling myself an expert, I just designed some PA's, ranging
from kHz to GHz and from mW to kW, some of them with efficiencies to
over 95%. Together with antenna design and consultancy it assures me
that at the end of each month I have some money left.

With kind regards,

Wim
PA3DJS

1146. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 12:29:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f9b31293-67a8-4c7d-bd96-4d7a9c208007@n11g2000yqf.googlegroups.com>
Source record: 4947

On May 17, 4:49 am, Wimpie <wimabc...@tetech.nl> wrote:
> If you show up with a relevant
> quest, maybe I am willing to dive into it.

Wim, here is why my questions for you are more than just relevant. It is imperative that someone lecturing us on happenings inside that PA RF volcano be able to understand what is occurring during a passive event involving forward and reflected EM fields and waves occurring at an impedance discontinuity outside of a PA.

Two of the physical quantities that must be conserved are energy and momentum. EM RF fields and waves contain both energy and momentum which must be conserved. I have asked you to tell us exactly what laws of physics govern the reversal of the momentum and direction of energy flow at a Z0-match at a passive impedance discontinuity in a transmission line. You have refused to do so and asserted that such is irrelevant. I contend that I could not have asked a more relevant question - thus the reluctance to provide an answer.

The answer to the question is contained in my energy analysis article at:
http://www.w5dxp.com/energy.htm
A passive Z0-match relies on superposition of waves accompanied by interference effects to explain the reversal of reflected wave energy direction and momentum. Walter Maxwell has called the process a "virtual open-circuit" or a "virtual short". In my article, I explain how it is a two-step process involving normal reflections and interference patterns at the impedance discontinuity. It works exactly like non-reflective glass covering a picture with its 1/4WL thin-film coating where two sets of reflected light waves undergo destructive interference toward the viewer and, honoring the conservation of energy and momentum, reverse their direction and momentum and flow in the opposite direction toward the picture. This is a well-understood phenomenon from sophomore physics 201. Why most RF engineers don't understand this simple physical process involving EM wave interference is beyond belief. Here's the Florida State University web page again:

micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

Set the java application for opposite phase and when the result is zero, scroll down to the bottom of the page to find out what happens to the energy components in the two waves that cancel to zero. Those energy components "are redistributed to regions that permit constructive interference" just as they are at a Z0-match in an RF transmission line where there are only two possible directions for RF

energy flow. For every destructive interference event in one direction, there will be an equal magnitude constructive interference event in the opposite direction. At Walt's "virtual short", total destructive interference energy toward the source is redistributed as constructive interference energy back toward the load.

I studied this subject in my EE courses at Texas A&M during the 1950's. The textbook was: "Fields and Waves in Modern Radio", by Ramo and Whinnery, (c) 1944, 1953. The subject is covered under "Quarter-Wave Coating for Eliminating Reflections" in the chapter titled: "Propagation and Reflection of Electromagnetic Waves".
--
73, Cecil, w5dxp.com
"Halitosis is better than no breath at all.", Don, KE6AJH/SK

1147. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 13:10:28 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <dd19976b-099f-4c95-89df-c1277588a487@z19g2000yqz.googlegroups.com>
Source record: 4948

On 17 mayo, 14:29, Cecil Moore <w5...@hotmail.com> wrote:
> On May 17, 4:49 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > If you show up with a relevant
> > quest, maybe I am willing to dive into it.
>
> Wim, here is why my questions for you are more than just relevant. It
> is imperative that someone lecturing us on happenings inside that PA
> RF volcano be able to understand what is occurring during a passive
> event involving forward and reflected EM fields and waves occurring at
> an impedance discontinuity outside of a PA.
>
> Two of the physical quantities that must be conserved are energy and
> momentum. EM RF fields and waves contain both energy and momentum
> which must be conserved. I have asked you to tell us exactly what laws
> of physics govern the reversal of the momentum and direction of energy
> flow at a Z0-match at a passive impedance discontinuity in a
> transmission line. You have refused to do so and asserted that such is
> irrelevant. I contend that I could not have asked a more relevant
> question - thus the reluctance to provide an answer.
>
> The answer to the question is contained in my energy analysis article
> at:http://www.w5dxp.com/energy.htm
> A passive Z0-match relies on superposition of waves accompanied by
> interference effects to explain the reversal of reflected wave energy
> direction and momentum. Walter Maxwell has called the process a
> "virtual open-circuit" or a "virtual short". In my article, I explain
> how it is a two-step process involving normal reflections and
> interference patterns at the impedance discontinuity. It works exactly
> like non-reflective glass covering a picture with its 1/4WL thin-film
> coating where two sets of reflected light waves undergo destructive
> interference toward the viewer and, honoring the conservation of
> energy and momentum, reverse their direction and momentum and flow in
> the opposite direction toward the picture. This is a well-understood
> phenomenon from sophomore physics 201. Why most RF engineers don't
> understand this simple physical process involving EM wave interference
> is beyond belief. Here's the Florida State University web page again:
>
> micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
> waveinteractions/index.html
>
> Set the java application for opposite phase and when the result is
> zero, scroll down to the bottom of the page to find out what happens
> to the energy components in the two waves that cancel to zero. Those

> energy components "are redistributed to regions that permit
> constructive interference" just as they are at a Z0-match in an RF
> transmission line where there are only two possible directions for RF
> energy flow. For every destructive interference event in one
> direction, there will be an equal magnitude constructive interference
> event in the opposite direction. At Walt's "virtual short", total
> destructive interference energy toward the source is redistributed as
> constructive interference energy back toward the load.
>
> I studied this subject in my EE courses at Texas A&M during the
> 1950's. The textbook was: "Fields and Waves in Modern Radio", by Ramo
> and Whinnery, (c) 1944, 1953. The subject is covered under "Quarter-
> Wave Coating for Eliminating Reflections" in the chapter titled:
> "Propagation and Reflection of Electromagnetic Waves".
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

Hello Cecil,

I am familiar with quarter wave (and multi layer) coatings to reduce reflection. I am not waiting for a lecture on (un)bounded wave propagation. If I don't have something present in my mind, I know where to find it.

As mentioned earlier, you can convert all the wave phenomena in the coaxial feed line to impedance as seen by the PA. You are unnecessary complicating things, hence loosing more public that may have interest in this topic.

Maybe you (and other people) should carry out the experiments I suggested in this thread (looking to forward power, net power and DC input power versus small load mismatch [normally referenced to 50 Ohms]).

With kind regards,

Wim
PA3DJS
www.tetech.nl

1148. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 15:22:48 UTC
From: walt <walt@w2du.com>
Message-ID: <a0a7a69a-220b-41ee-8afc-e4846d5d1c1e@k27g2000pri.googlegroups.com>
Source record: 4949

On May 17, 9:10 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 17 mayo, 14:29, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
>
>
>
>
>
> > On May 17, 4:49 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > If you show up with a relevant
> > > quest, maybe I am willing to dive into it.
>
> > Wim, here is why my questions for you are more than just relevant. It
> > is imperative that someone lecturing us on happenings inside that PA
> > RF volcano be able to understand what is occurring during a passive
> > event involving forward and reflected EM fields and waves occurring at
> > an impedance discontinuity outside of a PA.
>
> > Two of the physical quantities that must be conserved are energy and
> > momentum. EM RF fields and waves contain both energy and momentum
> > which must be conserved. I have asked you to tell us exactly what laws
> > of physics govern the reversal of the momentum and direction of energy
> > flow at a Z0-match at a passive impedance discontinuity in a
> > transmission line. You have refused to do so and asserted that such is
> > irrelevant. I contend that I could not have asked a more relevant
> > question - thus the reluctance to provide an answer.
>
> > The answer to the question is contained in my energy analysis article
> > at:http://www.w5dxp.com/energy.htm
> > A passive Z0-match relies on superposition of waves accompanied by
> > interference effects to explain the reversal of reflected wave energy
> > direction and momentum. Walter Maxwell has called the process a
> > "virtual open-circuit" or a "virtual short". In my article, I explain
> > how it is a two-step process involving normal reflections and
> > interference patterns at the impedance discontinuity. It works exactly
> > like non-reflective glass covering a picture with its 1/4WL thin-film
> > coating where two sets of reflected light waves undergo destructive
> > interference toward the viewer and, honoring the conservation of
> > energy and momentum, reverse their direction and momentum and flow in
> > the opposite direction toward the picture. This is a well-understood

> > phenomenon from sophomore physics 201. Why most RF engineers don't
> > understand this simple physical process involving EM wave interference
> > is beyond belief. Here's the Florida State University web page again:
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> > micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
> > waveinteractions/index.html
>
> > Set the java application for opposite phase and when the result is
> > zero, scroll down to the bottom of the page to find out what happens
> > to the energy components in the two waves that cancel to zero. Those
> > energy components "are redistributed to regions that permit
> > constructive interference" just as they are at a Z0-match in an RF
> > transmission line where there are only two possible directions for RF
> > energy flow. For every destructive interference event in one
> > direction, there will be an equal magnitude constructive interference
> > event in the opposite direction. At Walt's "virtual short", total
> > destructive interference energy toward the source is redistributed as
> > constructive interference energy back toward the load.
>
> > I studied this subject in my EE courses at Texas A&M during the
> > 1950's. The textbook was: "Fields and Waves in Modern Radio", by Ramo
> > and Whinnery, (c) 1944, 1953. The subject is covered under "Quarter-
> > Wave Coating for Eliminating Reflections" in the chapter titled:
> > "Propagation and Reflection of Electromagnetic Waves".
> > --
> > 73, Cecil, w5dxp.com
> > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> Hello Cecil,
>
> I am familiar with quarter wave (and multi layer) coatings to reduce
> reflection. I am not waiting for a lecture on (un)bounded wave
> propagation. If I don't have something present in my mind, I know
> where to find it.
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> As mentioned earlier, you can convert all the wave phenomena in the
> coaxial feed line to impedance as seen by the PA. You are unnecessary
> complicating things, hence loosing more public that may have interest
> in this topic.
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> Maybe you (and other people) should carry out the experiments I
> suggested in this thread (looking to forward power, net power and DC
> input power versus small load mismatch [normally referenced to 50
> Ohms]).
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

Wim, I'm amazed that you don't find the more-detailed explanation of how impedance matching occurs via wave interference of any value. Many RF engineers have traditionally believed that a PHYSICAL open or short circuit is required to produce a reflection. As a professional antenna engineer with RCA in 1973 I discovered and published the wave mechanics that produces the VIRTUAL open and short circuits that are required for achieving an impedance match. I took bashings from those traditional engineers, who said reflections cannot be engendered by wave interference, until they studied my data more carefully and finally agreed I'm right. Remember, James Clerk Maxwell also had his detractors until they finally saw the light.

Walt

1149. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 16:53:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5f58ff6a-5304-4a54-bbf8-5b7e3dd4134f@s41g2000prb.googlegroups.com>
Source record: 4950

On May 17, 8:10 am, Wimpie <wimabc...@tetech.nl> wrote:
> I am familiar with quarter wave (and multi layer) coatings to reduce
> reflection. I am not waiting for a lecture on (un)bounded wave
> propagation.

Hopefully you realize that if anything of that nature is happening
inside a PA, then your source impedance calculations can be off by
magnitudes.
--
73, Cecil, w5dxp.com

1150. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 19:36:13 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <54f9841f-3e94-4144-b2f7-07e8fa51275e@s11g2000yqj.googlegroups.com>
Source record: 4851

On 17 mayo, 17:22, walt <w...@w2du.com> wrote:
> On May 17, 9:10 am, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 17 mayo, 14:29, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On May 17, 4:49 am, Wimpie <wimabc...@tetech.nl> wrote:
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> > > Wim, here is why my questions for you are more than just relevant. It
> > > is imperative that someone lecturing us on happenings inside that PA
> > > RF volcano be able to understand what is occurring during a passive
> > > event involving forward and reflected EM fields and waves occurring at
> > > an impedance discontinuity outside of a PA.
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> > > Two of the physical quantities that must be conserved are energy and
> > > momentum. EM RF fields and waves contain both energy and momentum
> > > which must be conserved. I have asked you to tell us exactly what laws
> > > of physics govern the reversal of the momentum and direction of energy
> > > flow at a Z0-match at a passive impedance discontinuity in a
> > > transmission line. You have refused to do so and asserted that such is
> > > irrelevant. I contend that I could not have asked a more relevant
> > > question - thus the reluctance to provide an answer.
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> > > A passive Z0-match relies on superposition of waves accompanied by
> > > interference effects to explain the reversal of reflected wave energy
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> > > "virtual open-circuit" or a "virtual short". In my article, I explain
> > > how it is a two-step process involving normal reflections and
> > > interference patterns at the impedance discontinuity. It works exactly
> > > like non-reflective glass covering a picture with its 1/4WL thin-film
> > > coating where two sets of reflected light waves undergo destructive
> > > interference toward the viewer and, honoring the conservation of
> > > energy and momentum, reverse their direction and momentum and flow in
> > > the opposite direction toward the picture. This is a well-understood
> > > phenomenon from sophomore physics 201. Why most RF engineers don't
> > > understand this simple physical process involving EM wave interference
> > > is beyond belief. Here's the Florida State University web page again:
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> > > micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
> > > waveinteractions/index.html
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> > > Set the java application for opposite phase and when the result is
> > > zero, scroll down to the bottom of the page to find out what happens
> > > to the energy components in the two waves that cancel to zero. Those
> > > energy components "are redistributed to regions that permit
> > > constructive interference" just as they are at a Z0-match in an RF
> > > transmission line where there are only two possible directions for RF
> > > energy flow. For every destructive interference event in one
> > > direction, there will be an equal magnitude constructive interference
> > > event in the opposite direction. At Walt's "virtual short", total
> > > destructive interference energy toward the source is redistributed as
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> > > I studied this subject in my EE courses at Texas A&M during the
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> RF engineers have traditionally believed that a PHYSICAL open or short
> circuit is required to produce a reflection. As a professional antenna

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> mechanics that produces the VIRTUAL open and short circuits that are
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> traditional engineers, who said reflections cannot be engendered by
> wave interference, until they studied my data more carefully and
> finally agreed I'm right. Remember, James Clerk Maxwell also had his
> detractors until they finally saw the light.
>
> Walt

Hello Walt,

It is not that I don't see the importance of reflections / wave interference, as I use transmission line theory on an almost weekly basis. However one don't need to complicate the matter by using transmission line theory for a HF PA.

When you open your rig, you will very likely not find a >10" long 100uh inductor in the output section of your PA. Also your capacitors have very small size w.r.t. wavelength. A lumped circuit model and a load specified as an impedance is therefore more than good enough to discuss PA complex output impedance and what CAN happen when you apply mismatch.

You can't tell what happens exactly, because then you need to dive into the circuit diagram of the PA to evaluate current and voltage waveforms at the active device.

With kind regards,

Wim
PA3DJS
www.tetech.nl

1151. CDE AR22R

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 20:40:33 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <74BAp.4421$tC6.1884@newsfe03.iad>
Source record: 4853

Hello all
I just picked up an old CDE AR22R rotor and controller
It is missing the choke for the pulse switch from the rotor to the
controller
anybody ever have to replace one of these or know the value ??
In the drawing it is labeled CH and part #A52 50426-00
and I cant find anything on it
Thanks in advance to all that read and reply
Howard

1152. CDE AR22R

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-17 20:41:48 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <74BAp.4422$tC6.2332@newsfe03.iad>
Source record: 4852

Hello all
I just picked up an old CDE AR22R rotor and controller
It is missing the choke for the pulse switch from the rotor to the
controller
anybody ever have to replace one of these or know the value ??
In the drawing it is labeled CH and part #A52 50426-00
and I cant find anything on it
Thanks in advance to all that read and reply
Howard

1153. The Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 00:05:06 UTC
From: dallas1942@suddenlink.net
Message-ID: <b981b97e-137c-4b0f-a11f-7d7e89c9ce20@j23g2000yqc.googlegroups.com>
Source record: 4854

The Dallas Files are being reconstructed at

http://groups.yahoo.com/group/thedallasfiles/

1154. Re: CDE AR22R

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 01:01:38 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <YTEAp.8914$ar1.5022@newsfe08.iad>
Source record: 4855

Hi and thanks for the info
well I emailed hygain/MFJ
Last time I emailed them about something else I never got a reply
So I don't have to much faith in this email
Will keep you posted
Howard

"Howard Kowall" <hkowall@shaw.ca> wrote in message
news:74BAp.4422$tC6.2332@newsfe03.iad...
> Hello all
> I just picked up an old CDE AR22R rotor and controller
> It is missing the choke for the pulse switch from the rotor to the
> controller
> anybody ever have to replace one of these or know the value ??
> In the drawing it is labeled CH and part #A52 50426-00
> and I cant find anything on it
> Thanks in advance to all that read and reply
> Howard
>
>

1155. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 02:34:19 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ef96530e-dc24-42c2-8abc-6e0cf1bcabb9@p13g2000yqh.googlegroups.com>
Source record: 4856

On May 17, 2:36 pm, Wimpie <wimabc...@tetech.nl> wrote:
> However one don't need to complicate the matter by using
> transmission line theory for a HF PA.

I can only quote Einstein (once again) for you:
"Everything should be made as simple as possible, but not simpler."

You have ignored Einstein's advice and "uncomplicated the matter" to the point of violating the laws of physics. When you use the distributed network model for part of the circuit and then switch, mid-stream, to the lumped circuit model, you are indeed violating the laws of physics (as I have pointed out to you before). But you are certainly free to delude yourself into ignoring reality and choosing to commit technical suicide in the process. When you switch to the lumped circuit model, you are presuming faster than light speeds and completely ignoring the existence of EM waves. The fact that an EM/RF signal cannot travel even one inch in zero time simply cannot be ignored. If you take that one inch speed of light delay into account, hopefully you will realize just how technically confused you really are about the magical reversal of cause and effect concepts that you are promoting.
--
73, Cecil, w5dxp.com

1156. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 05:33:59 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <890b381e-d34b-4e03-8963-2df76e6aa7a4@h36g2000pro.googlegroups.com>
Source record: 4857

On May 17, 12:36 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 17 mayo, 17:22, walt <w...@w2du.com> wrote:
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> > On May 17, 9:10 am, Wimpie <wimabc...@tetech.nl> wrote:
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> > > > 73, Cecil, w5dxp.com
> > > > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
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> > > Hello Cecil,
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> > > As mentioned earlier, you can convert all the wave phenomena in the
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> > > in this topic.
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> >
> > > With kind regards,

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> Hello Walt,
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> basis. However one don't need to complicate the matter by using
> transmission line theory for a HF PA.
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> 100uh inductor in the output section of your PA. Also your capacitors
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> load specified as an impedance is therefore more than good enough to
> discuss PA complex output impedance and what CAN happen when you apply
> mismatch.
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> You can't tell what happens exactly, because then you need to dive
> into the circuit diagram of the PA to evaluate current and voltage
> waveforms at the active device.
>
> With kind regards,
>
> Wim
> PA3DJSwww.tetech.nl

For what it's worth, in my work I design a lot of filters and matching networks. I regularly model the designs before I build them, using the level of detail I feel is appropriate. When I build the physical filter or network I've modeled, I compare the measured response with the response predicted by my model. I do that in some detail. I almost always modify the model as necessary, adding detail so it matches the measured performance. When I say I add detail, I don't mean that I do it haphazardly, but rather that I look closely at the physical realization and add pieces to the model that match pieces of

the physical realization. Because I've gone through this design cycle many times, with many different topologies and for a variety of frequency ranges from below 1MHz to above 1GHz, I have a pretty good idea before I start a new design just what level of detail I'll need.

What I find from this is that, just as Wim says about PA matching networks, I seldom need anything beyond representations of the lumped components when I'm dealing with low frequency filters that don't have high loaded-Q resonators. Up to 30MHz, I don't recall ever having to use transmission lines in my models to get excellent agreement between the model and the physical implementation (except in the rare cases where I've included transmission lines in the physical implementation of a low frequency network, of course). I do often have to add parasitic elements--sometimes even for relatively low frequency filters. (I remember having a technician build a 1MHz filter for me; he couldn't understand why his didn't work anywhere near as well as the first one I had built, until I showed him where he'd allowed other parasitics to creep in--short lengths of wire with currents shared between two high-Q resonators...) I'm _FAR_ more likely to need to include mutual inductance between two coils in a model, than I am to need to include a transmission line.

On the other hand, when I'm dealing with filters above 100MHz, it's not unusual to include transmission line sections and stubs in my models. Above 200MHz or so, the models generally do benefit from including transmission lines. Mind you, there aren't any hard and fast rules; there is no magic transition frequency. But when you've built models that match reality as closely as I commonly do, you learn to just smile blandly at those who tell you that you "must" consider a coil to be a transmission line or you'll be "wrong."

Finally, even when I do include transmission lines in my models, I don't worry in detail about reflections, or about a time-domain analysis of the situation. Just as there's an equivalence between time-domain waveforms and spectral analysis, a frequency sweep of a system (including phase as well as amplitude response) tells me everything I need to know, in the domain I'm already interested in.

I hope Wim (and others?) will excuse the off-topic drift here. And I'm _still_ trying to figure out _why_ anyone would care about the output impedance of a PA of the sort used at HF to drive antennas. Nobody has ever convinced me that it matters at all, except perhaps as academic interest.

Cheers,
Tom

1157. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 13:11:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5331c623-ffd1-4302-99e2-700e8cd602ca@q12g2000prb.googlegroups.com>
Source record: 4858

On May 18, 12:33 am, K7ITM <k7...@msn.com> wrote:
> I'm _still_ trying to figure out _why_ anyone would care about the
> output impedance of a PA of the sort used at HF to drive antennas.
> Nobody has ever convinced me that it matters at all, except perhaps as
> academic interest.

Nobody is questioning the efficacy of design methods. Whatever works,
works. What we are discussing is indeed only of academic interest.
Knowing whether my IC-706 is conjugately matched or not does not
affect its operation at all.

From the time (t0) that a PA first outputs a Zg signal to the time
(t1) that the PA senses its load impedance is NOT zero time. How does
the PA know what its load impedance really is when it is not Zg?
Einstein's spooky action at a distance? No, feedback from the load.

Obviously, the PA receives some sort of feedback in real time. What is
the nature of that feedback? What can it be besides feedback energy
reflected from the load? (not in zero time, but at the speed of
light). In the real world, it takes measurable time for the forward
energy to reach the load and measurable time for the reflected
feedback (if any) to arrive back at the PA. The load seen at the PA
source is always an E/I ratio, i.e. a lossless image impedance that
always experiences a delay if it is not equal to Zg, i.e. it usually
contains reflected energy.
--
73, Cecil, w5dxp.com

1158. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 14:41:49 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <064bd85e-e6cb-4324-bcf7-1b13534b08a0@y4g2000yqm.googlegroups.com>
Source record: 4859

On 18 mayo, 07:33, K7ITM <k7...@msn.com> wrote:
> On May 17, 12:36 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 17 mayo, 17:22, walt <w...@w2du.com> wrote:
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> > > > > micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
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> > > > > and Whinnery, (c) 1944, 1953. The subject is covered under "Quarter-
> > > > > Wave Coating for Eliminating Reflections" in the chapter titled:
> > > > > "Propagation and Reflection of Electromagnetic Waves".
> > > > > --
> > > > > 73, Cecil, w5dxp.com
> > > > > "Halitosis is better than no breath at all.", Don, KE6AJH/SK
>
> > > Hello Cecil,
>
> > > I am familiar with quarter wave (and multi layer) coatings to reduce
> > > reflection. I am not waiting for a lecture on (un)bounded wave
> > > propagation. If I don't have something present in my mind, I know
> > > where to find it.
>
> > > As mentioned earlier, you can convert all the wave phenomena in the
> > > coaxial feed line to impedance as seen by the PA. You are unnecessary
> > > complicating things, hence loosing more public that may have interest
> > > in this topic.
>
> > > Maybe you (and other people) should carry out the experiments I
> > > suggested in this thread (looking to forward power, net power and DC
> > > input power versus small load mismatch [normally referenced to 50
> > > Ohms]).
>
> > > With kind regards,
>
> > > Wim
> > > PA3DJSwww.tetech.nl
>

> > > Wim, I'm amazed that you don't find the more-detailed explanation of
> > > how impedance matching occurs via wave interference of any value. Many
> > > RF engineers have traditionally believed that a PHYSICAL open or short
> > > circuit is required to produce a reflection. As a professional antenna
> > > engineer with RCA in 1973 I discovered and published the wave
> > > mechanics that produces the VIRTUAL open and short circuits that are
> > > required for achieving an impedance match. I took bashings from those
> > > traditional engineers, who said reflections cannot be engendered by
> > > wave interference, until they studied my data more carefully and
> > > finally agreed I'm right. Remember, James Clerk Maxwell also had his
> > > detractors until they finally saw the light.
>
> > > Walt
>
> > Hello Walt,
>
> > It is not that I don't see the importance of reflections / wave
> > interference, as I use transmission line theory on an almost weekly
> > basis. However one don't need to complicate the matter by using
> > transmission line theory for a HF PA.
>
> > When you open your rig, you will very likely not find a >10" long
> > 100uh inductor in the output section of your PA. Also your capacitors
> > have very small size w.r.t. wavelength. A lumped circuit model and a
> > load specified as an impedance is therefore more than good enough to
> > discuss PA complex output impedance and what CAN happen when you apply
> > mismatch.
>
> > You can't tell what happens exactly, because then you need to dive
> > into the circuit diagram of the PA to evaluate current and voltage
> > waveforms at the active device.
>
> > With kind regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
>
> For what it's worth, in my work I design a lot of filters and matching
> networks. I regularly model the designs before I build them, using
> the level of detail I feel is appropriate. When I build the physical
> filter or network I've modeled, I compare the measured response with
> the response predicted by my model. I do that in some detail. I
> almost always modify the model as necessary, adding detail so it
> matches the measured performance. When I say I add detail, I don't
> mean that I do it haphazardly, but rather that I look closely at the
> physical realization and add pieces to the model that match pieces of
> the physical realization. Because I've gone through this design cycle
> many times, with many different topologies and for a variety of
> frequency ranges from below 1MHz to above 1GHz, I have a pretty good
> idea before I start a new design just what level of detail I'll need.

>
> What I find from this is that, just as Wim says about PA matching
> networks, I seldom need anything beyond representations of the lumped
> components when I'm dealing with low frequency filters that don't have
> high loaded-Q resonators. Up to 30MHz, I don't recall ever having to
> use transmission lines in my models to get excellent agreement between
> the model and the physical implementation (except in the rare cases
> where I've included transmission lines in the physical implementation
> of a low frequency network, of course). I do often have to add
> parasitic elements--sometimes even for relatively low frequency
> filters. (I remember having a technician build a 1MHz filter for me;
> he couldn't understand why his didn't work anywhere near as well as
> the first one I had built, until I showed him where he'd allowed other
> parasitics to creep in--short lengths of wire with currents shared
> between two high-Q resonators...) I'm _FAR_ more likely to need to
> include mutual inductance between two coils in a model, than I am to
> need to include a transmission line.
>
> On the other hand, when I'm dealing with filters above 100MHz, it's
> not unusual to include transmission line sections and stubs in my
> models. Above 200MHz or so, the models generally do benefit from
> including transmission lines. Mind you, there aren't any hard and
> fast rules; there is no magic transition frequency. But when you've
> built models that match reality as closely as I commonly do, you learn
> to just smile blandly at those who tell you that you "must" consider a
> coil to be a transmission line or you'll be "wrong."
>
> Finally, even when I do include transmission lines in my models, I
> don't worry in detail about reflections, or about a time-domain
> analysis of the situation. Just as there's an equivalence between
> time-domain waveforms and spectral analysis, a frequency sweep of a
> system (including phase as well as amplitude response) tells me
> everything I need to know, in the domain I'm already interested in.

Hello Tom,

Applying Cecil's rules, you and I are bad engineers/designers, as we frequently didn't apply momentum, EcrossH, reflections, full Maxwell Equations, etc.

I know of some of your designs and that from others (they are successful). So something in that statement regarding bad engineers/designers is wrong.

When dealing with fresh from school engineers I frequently encountered bad results or good results, but delivered too late (so aren't good in fact). The last category is mostly caused by using approximations that are way over the top, complicating calculations, slowing down/crashing simulations, etc.

Knowing to apply a suitable approximation/model separates the seasoned from the fresh engineers.

Now the original topic (that was output impedance of HF PAs and using non-50 Ohms coaxial cable) is under a pile of reflections, interferences, momentum, photons, etc, it becomes clear to me whether to apply the words "fresh" or "seasoned" to some of the contributors.

> I hope Wim (and others?) will excuse the off-topic drift here. And
> I'm _still_ trying to figure out _why_ anyone would care about the
> output impedance of a PA of the sort used at HF to drive antennas.
> Nobody has ever convinced me that it matters at all, except perhaps as
> academic interest.

Tom, excuses are not required, I consider your reply as an attempt to get the discussion on-topic again.

> Cheers,
> Tom

With kind regards,

Wim
PA3DJS
www.tetech.nl

1159. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 15:26:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <467a9aae-d629-4ac5-9734-15dc39fbcc8d@z7g2000prh.googlegroups.com>
Source record: 4860

On May 18, 9:41 am, Wimpie <wimabc...@tetech.nl> wrote:
> Applying Cecil's rules, you and I are bad engineers/designers, ...

Are false assertions really necessary or helpful?
--
73, Cecil, w5dxp.com

1160. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 16:03:32 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <ec3d0d85-f2e4-49d4-89c6-addce5f8bb90@r20g2000yqd.googlegroups.com>
Source record: 4861

On 18 mayo, 17:26, Cecil Moore <w5...@hotmail.com> wrote:
> On May 18, 9:41 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Applying Cecil's rules, you and I are bad engineers/designers, ...
>
> Are false assertions really necessary or helpful?
> --
> 73, Cecil, w5dxp.com

Hello Cecil,

You keep on luring us (and others) into non-relevant discussions.
Snippet from your posting to Tom:

> From the time (t0) that a PA first outputs a Zg signal to the time
> (t1) that the PA senses its load impedance is NOT zero time. How does
> the PA know what its load impedance really is when it is not Zg?
> Einstein's spooky action at a distance? No, feedback from the load.
>
> Obviously, the PA receives some sort of feedback in real time. What is
> the nature of that feedback? What can it be besides feedback energy
> reflected from the load? (not in zero time, but at the speed of
> light). In the real world, it takes measurable time for the forward
> energy to reach the load and measurable time for the reflected
> feedback (if any) to arrive back at the PA. The load seen at the PA
> source is always an E/I ratio, i.e. a lossless image impedance that
> always experiences a delay if it is not equal to Zg, i.e. it usually
> contains reflected energy.

There must be some (for us hidden) reason to do this.

We are discussing near steady state sinusoidal signals, so amplitude
and phase can only vary slowly (if not, other amateurs would not be
happy with you). Especially in case of manual load pulling, it doesn't
matter when there is a back and forth delay of 100 us (that is 10 km
of coaxial cable!!). All such delay actions are fully covered by the
concept of impedance (and steady state transmission line theory). We
are not discussing wide band systems where a reflected signal may be
uncorrelated with the actual output signal.

Wim
PA3DJS
www.tetech.nl

1161. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 16:56:52 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <349acf27-8cfb-41e4-b956-6e1a82f6a1a9@s16g2000prf.googlegroups.com>
Source record: 4862

On May 18, 6:11 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 18, 12:33 am, K7ITM <k7...@msn.com> wrote:
>
> > I'm _still_ trying to figure out _why_ anyone would care about the
> > output impedance of a PA of the sort used at HF to drive antennas.
> > Nobody has ever convinced me that it matters at all, except perhaps as
> > academic interest.
>
> Nobody is questioning the efficacy of design methods. Whatever works,
> works. What we are discussing is indeed only of academic interest.
> Knowing whether my IC-706 is conjugately matched or not does not
> affect its operation at all.
>
> From the time (t0) that a PA first outputs a Zg signal to the time
> (t1) that the PA senses its load impedance is NOT zero time. How does
> the PA know what its load impedance really is when it is not Zg?
> Einstein's spooky action at a distance? No, feedback from the load.
>
> Obviously, the PA receives some sort of feedback in real time. What is
> the nature of that feedback? What can it be besides feedback energy
> reflected from the load? (not in zero time, but at the speed of
> light). In the real world, it takes measurable time for the forward
> energy to reach the load and measurable time for the reflected
> feedback (if any) to arrive back at the PA. The load seen at the PA
> source is always an E/I ratio, i.e. a lossless image impedance that
> always experiences a delay if it is not equal to Zg, i.e. it usually
> contains reflected energy.
> --
> 73, Cecil, w5dxp.com

Cecil, just HOW do you propose to MEASURE the effect you describe, as seen at the transmitter's output port, using only our HF ham transmitter/PA that transmits a signal with a maximum bandwidth of perhaps 10kHz? If it is going to have the dire consequences you suggested a few postings ago, then it must be trivial to measure...unfortunately, I don't see how, and that bugs me, as one who strives to provide accurate, sophisticated measurement technology to engineers.

Perhaps you missed it, but nobody is disagreeing that the mechanism for establishing a load impedance is reflections in the system of lines and lumped loads attached to the PA output. We are simply saying that, for the bandwidth signals involved, you'll be extremely hard-pressed to distinguish between a load consisting of any number of transmission line segments, along with one or many lumped loads

wherever you want along those line segments, and a simple equivalent series RLC.

I suppose it will be lost on most of the lurkers, but it's a bit of a bad joke to deny that one can make valid PA output impedance measurements with a signal very slightly off-frequency (less than 1kHz), and then claim that reflections in a system of maybe a couple hundred feet of coax makes a major difference in how the load behaves as compared with a lumped RLC.

Cheers,
Tom

1162. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 17:38:51 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir107duhp1@dont-email.me>
Source record: 4863

On 5/16/2011 2:55 PM, Cecil Moore wrote:
> On May 16, 2:42 pm, John KD5YI<soph...@invalid.org> wrote:
>> But I have no need of reflections. The fact that a 200 ohm load appears
>> as a 50 ohm load at the input of a 1/4WL 100 ohm line takes care of all
>> that for me.
>
> There's no argument/discussion about that. The question is: Exactly
> what happens at the 50 ohm Z0-match to reverse the direction and
> momentum of the reflected wave resulting in no reflections on the 50
> ohm line? Hint: it is exactly what happens with non-reflective glass
> where the 1/4WL thin-film coating cancels the reflections through
> destructive interference. Why not alleviate ignorance by taking
> advantage of those well understood facts of EM wave physics from the
> field of optics?
>
> micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
> waveinteractions/index.html
> --
> 73, Cecil, w5dxp.com
> "Halitosis is better than no breath at all.", Don, KE6AJH/SK

By the way, what is the impedance of a constant 100W source looking back
into its short piece of internal 50 ohm line?

John

1163. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 17:46:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <06744b30-ca25-4948-9475-8f27ed477923@k16g2000yqm.googlegroups.com>
Source record: 4864

On May 18, 11:56 am, K7ITM <k7...@msn.com> wrote:
> Cecil, just HOW do you propose to MEASURE the effect you describe, as
> seen at the transmitter's output port, using only our HF ham
> transmitter/PA that transmits a signal with a maximum bandwidth of
> perhaps 10kHz?

I don't have a proposal and am just pointing out some of the technical problems associated with some of the methods being proposed. FYI, when one uses a model that presupposes faster than light propagation speeds to try to explain something happening in the real world, one should expect some skepticism - unless one can prove that he is using entangled photons. :-)
--
73, Cecil, w5dxp.com

1164. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 19:33:48 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <885cac74-8e06-432c-abb0-e22fcb290de5@h9g2000yqk.googlegroups.com>
Source record: 4865

On 18 mayo, 19:46, Cecil Moore <w5...@hotmail.com> wrote:
> On May 18, 11:56 am, K7ITM <k7...@msn.com> wrote:
>
> > Cecil, just HOW do you propose to MEASURE the effect you describe, as
> > seen at the transmitter's output port, using only our HF ham
> > transmitter/PA that transmits a signal with a maximum bandwidth of
> > perhaps 10kHz?
>
> I don't have a proposal and am just pointing out some of the technical
> problems associated with some of the methods being proposed. FYI, when
> one uses a model that presupposes faster than light propagation speeds
> to try to explain something happening in the real world, one should
> expect some skepticism - unless one can prove that he is using
> entangled photons. :-)
> --
> 73, Cecil, w5dxp.com

Hello Cecil,

Could you please explain why the lumped circuit approach used by many people across the world presupposes faster than light propagation (as I can't)?

In my opinion it only presupposes that speed of light is not of importance and if it does, you can model that very easy by adding some additional lumped components in many cases.

Just take a circuit diagram of your rig, lumped components all over the place and if there are coaxial cables, they are just for transporting a signal from one place to another place. Did you ever used a circuit simulator, if so, did you model every capacitor, resistor, etc with a transmission line model?

You may evaluate for yourself a CLC section and see what the output versus input does. Of course you could also put it in some circuit simulator. And again you are trying to introduce non-relevancy into the topic.

Wim
PA3DJS
www.tetech.nl

1165. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 20:28:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <814afc69-6b1c-4d20-8634-ed9bcf49e01f@n11g2000yqf.googlegroups.com>
Source record: 4866

On May 18, 12:38 pm, John KD5YI <soph...@invalid.org> wrote:
> By the way, what is the impedance of a constant 100W source looking back
> into its short piece of internal 50 ohm line?

All that is required looking into the 50 ohm flat coax is that the
voltage be a constant 70.7 volts. V^2/Z0 is automatically 100 watts.
So the source could have any internal impedance under the sun as long
as it supplies 70.7 volts into 50 ohms. Didn't you say earlier that
source impedance doesn't matter?
--
73, Cecil, w5dxp.com

1166. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 20:55:43 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir1bohljh1@dont-email.me>
Source record: 4867

On 5/18/2011 3:28 PM, Cecil Moore wrote:
> On May 18, 12:38 pm, John KD5YI<soph...@invalid.org> wrote:
>> By the way, what is the impedance of a constant 100W source looking back
>> into its short piece of internal 50 ohm line?
>
> All that is required looking into the 50 ohm flat coax is that the
> voltage be a constant 70.7 volts. V^2/Z0 is automatically 100 watts.
> So the source could have any internal impedance under the sun as long
> as it supplies 70.7 volts into 50 ohms. Didn't you say earlier that
> source impedance doesn't matter?
> --
> 73, Cecil, w5dxp.com

Didn't you say earlier that it did matter?

John

1167. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 21:05:19 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <83737d60-af88-4a5f-90cf-3f575d6fe057@w21g2000yqm.googlegroups.com>
Source record: 4868

On May 18, 2:33 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Could you please explain why the lumped circuit approach used by many
> people across the world presupposes faster than light propagation (as
> I can't)?

http://hamwaves.com/antennas/inductance/corum.pdf

"The failure of any lumped element circuit model to describe the real
world lies at its core inherent *presupposition*: the speed of light
is assumed infinite in the wave equation."

"Lumped element circuit theory assumes that there are no wave
interference phenomena present, that is - the currents entering and
leaving the circuit element's terminals are identical."

http://www.classictesla.com/download/corum_lumped_failure.pdf

"In fact, lumped-element circuit theory inherently employs the
cosmological presupposition that the speed of light is infinite, as
every EE sophomore should know."

"Lumped circuit theory fails because it's a theory whose
presuppositions are inadequate. Every EE in the world was warned of
this in their first sophomore circuits course."

Give me some time and I will compose an example based on EZNEC results
for a lumped inductor vs a helical inductor of equal inductance. The
results are nowhere near the same.
--
73, Cecil, w5dxp.com

1168. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 21:13:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3cac85d1-f80e-4540-b3fa-78eec0051fba@h7g2000yqa.googlegroups.com>
Source record: 4869

On May 18, 3:55 pm, John KD5YI <soph...@invalid.org> wrote:
> Didn't you say earlier that it did matter?

I agreed with you that it was only of academic interest and that it
doesn't matter at all when I am talking on my IC-706.
--
73, Cecil, w5dxp.com

1169. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 21:39:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <eaf90f5c-70e2-4ff4-b54a-ec80be5a3566@y31g2000vbp.googlegroups.com>
Source record: 4870

On May 18, 4:05 pm, Cecil Moore <w5...@hotmail.com> wrote:
> Give me some time and I will compose an example based on EZNEC results
> for a lumped inductor vs a helical inductor of equal inductance. The
> results are nowhere near the same.

The example is a 4 MHz series circuit with a 100v source, a 72uH
inductance, and a 2570 ohm resistor.

Using a 72uH lumped inductance, the current is the same all around the
circuit and is 0.032 amps at -24 degrees, i.e. the source current is
24 degrees out of phase with the source voltage.

Using a 72uH helical inductance, the source current is 0.039 amps at
-0.02 degrees, i.e. in phase with the source voltage. The load current
is 0.039 amps at -42.4 degrees. The phase shift through the helical
inductor is more than 40 degrees.

As you probably know, the phase angles of superposed waves have a
drastic effect on the resulting impedance.
--
73, Cecil, w5dxp.com

1170. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 22:21:22 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <53335657-0434-4ddd-9608-ce910b6881ba@b42g2000yqi.googlegroups.com>
Source record: 4871

On 18 mayo, 23:39, Cecil Moore <w5...@hotmail.com> wrote:
> On May 18, 4:05 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > Give me some time and I will compose an example based on EZNEC results
> > for a lumped inductor vs a helical inductor of equal inductance. The
> > results are nowhere near the same.
>
> The example is a 4 MHz series circuit with a 100v source, a 72uH
> inductance, and a 2570 ohm resistor.
>
> Using a 72uH lumped inductance, the current is the same all around the
> circuit and is 0.032 amps at -24 degrees, i.e. the source current is
> 24 degrees out of phase with the source voltage.
>
> Using a 72uH helical inductance, the source current is 0.039 amps at
> -0.02 degrees, i.e. in phase with the source voltage. The load current
> is 0.039 amps at -42.4 degrees. The phase shift through the helical
> inductor is more than 40 degrees.
>
> As you probably know, the phase angles of superposed waves have a
> drastic effect on the resulting impedance.
> --
> 73, Cecil, w5dxp.com

Hello Cecil,

Can you describe the complete setup, or post a simple drawing
(including ground path, source and load and position of current and
voltmeters). I think that I can model it by using a lumped inductor
with 2 capacitors (in fact a section of an LC delay line). What is the
total wire length (just curious to know)?

72 uH, seems large for a matching inductor in a PA (at say 4 MHz, just
22 pF to resonate).

Wim
PA3DJS
www.tetech.nl

1171. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 22:42:31 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir1i0qkv1@dont-email.me>
Source record: 4872

On 5/18/2011 4:05 PM, Cecil Moore wrote:
> On May 18, 2:33 pm, Wimpie<wimabc...@tetech.nl> wrote:
>> Could you please explain why the lumped circuit approach used by many
>> people across the world presupposes faster than light propagation (as
>> I can't)?
>
> http://hamwaves.com/antennas/inductance/corum.pdf
>
> "The failure of any lumped element circuit model to describe the real
> world lies at its core inherent *presupposition*: the speed of light
> is assumed infinite in the wave equation."
>
> "Lumped element circuit theory assumes that there are no wave
> interference phenomena present, that is - the currents entering and
> leaving the circuit element's terminals are identical."
>
> http://www.classictesla.com/download/corum_lumped_failure.pdf
>
> "In fact, lumped-element circuit theory inherently employs the
> cosmological presupposition that the speed of light is infinite, as
> every EE sophomore should know."
>
> "Lumped circuit theory fails because it's a theory whose
> presuppositions are inadequate. Every EE in the world was warned of
> this in their first sophomore circuits course."
>
> Give me some time and I will compose an example based on EZNEC results
> for a lumped inductor vs a helical inductor of equal inductance. The
> results are nowhere near the same.
> --
> 73, Cecil, w5dxp.com
>

I'm not speaking for Wim, but I think we are both saying the following:

* You have a known load
* You have a transmission line with known characteristics
* Is is possible to use a Smith chart to get the impedance at the input
to the transmission line.
* We now know the load applied to the transmitter.

All we need to know we get from the chart. We admit that reflections are
responsible for the impedance transformation from load to line input.
But, we don't need to know anything about the reflection details, energy
content of the line, nor how light would like it.

So, we are saying that the load at the line input can be viewed as a lumped circuit. So now we have a transmitter loaded with a lumped circuit for further analysis.

That's all. It's simple.

John

1172. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 22:44:34 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4687c76a-8adc-44f2-91c8-cabbf3897209@a26g2000vbo.googlegroups.com>
Source record: 4873

On May 18, 5:21 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Can you describe the complete setup, or post a simple drawing
> (including ground path, source and load and position of current and
> voltmeters). I think that I can model it by using a lumped inductor
> with 2 capacitors (in fact a section of an LC delay line). What is the
> total wire length (just curious to know)?

Do you have EZNEC? If so, I can just upload the .EZ files to my web
page.

> 72 uH, seems large for a matching inductor in a PA (at say 4 MHz, just
> 22 pF to resonate).

:-) It's just what I had available - an EZNEC version of a Texas
Bugcatcher 80m loading coil.
--
73, Cecil, w5dxp.com

1173. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 22:58:43 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9fb01fa5-cf0a-438c-a25d-a6957ba0625f@d1g2000yqm.googlegroups.com>
Source record: 4874

On May 18, 5:42 pm, John KD5YI <soph...@invalid.org> wrote:
> So, we are saying that the load at the line input can be viewed as a
> lumped circuit. So now we have a transmitter loaded with a lumped
> circuit for further analysis.

It doesn't quite work that well. I gave an earlier example where Wim got the the s11 parameter wrong by an infinite percentage. The s-parameter equations for a lumped circuit vs an impedance discontinuity are nothing alike. Even the IEEE definitions for the two different types of impedances are different. The interference conditions at the impedance discontinuity can be proven to be different than for the lumped circuit replacement.

> That's all. It's simple.

Quoting Einstein again: "Everything should be made as simple as possible, but no simpler." :-)

When you switch to the lumped-circuit model, you are agreeing to faster than light signal speeds, NO superposition of signals, zero interference, zero phase shifts through coils, identical current everywhere, etc. How the heck can you assert and prove there is zero interference inside a source when reflected energy is flowing through it?
--
73, Cecil, w5dxp.com

1174. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-18 23:13:36 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir1jr2aqf1@dont-email.me>
Source record: 4875

On 5/18/2011 5:58 PM, Cecil Moore wrote:
> On May 18, 5:42 pm, John KD5YI<soph...@invalid.org> wrote:
>> So, we are saying that the load at the line input can be viewed as a
>> lumped circuit. So now we have a transmitter loaded with a lumped
>> circuit for further analysis.
>
> It doesn't quite work that well. I gave an earlier example where Wim
> got the the s11 parameter wrong by an infinite percentage. The s-
> parameter equations for a lumped circuit vs an impedance discontinuity
> are nothing alike. Even the IEEE definitions for the two different
> types of impedances are different. The interference conditions at the
> impedance discontinuity can be proven to be different than for the
> lumped circuit replacement.
>
>> That's all. It's simple.
>
> Quoting Einstein again: "Everything should be made as simple as
> possible, but no simpler." :-)
>
> When you switch to the lumped-circuit model, you are agreeing to
> faster than light signal speeds, NO superposition of signals, zero
> interference, zero phase shifts through coils, identical current
> everywhere, etc. How the heck can you assert and prove there is zero
> interference inside a source when reflected energy is flowing through
> it?
> --
> 73, Cecil, w5dxp.com

So, you're saying that the Smith chart is wrong?

1175. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 05:27:39 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <064b8183-d69e-4d71-be1b-b2d09fdcaa58@s41g2000prb.googlegroups.com>
Source record: 4876

On May 18, 3:42 pm, John KD5YI <soph...@invalid.org> wrote:
...
> I'm not speaking for Wim, but I think we are both saying the following:
>
> * You have a known load
> * You have a transmission line with known characteristics
> * Is is possible to use a Smith chart to get the impedance at the input
> to the transmission line.
> * We now know the load applied to the transmitter.
>
> All we need to know we get from the chart. We admit that reflections are
> responsible for the impedance transformation from load to line input.
> But, we don't need to know anything about the reflection details, energy
> content of the line, nor how light would like it.
>
> So, we are saying that the load at the line input can be viewed as a
> lumped circuit. So now we have a transmitter loaded with a lumped
> circuit for further analysis.
>
> That's all. It's simple.
>
> John

Exactly so, John. Good summary. So long as the transmitter's bandwidth is small enough that you are always operating practically at steady-state conditions, the transmitter can't tell the difference between whatever assembly of transmission lines and lumped loads distributed along those lines you want, and a simple lumped circuit that presents the same impedance as the steady-state value of the jumble of transmission lines out there. (For very narrow-band loads, you might want to use a lumped equivalent that presents sensibly the same impedance as the load across the whole transmitted bandwidth, not just at one point.)

It is NOT that anyone is assuming "faster than speed of light," it's that we're recognizing that the (HF voice-bandwidth) transmitter is slower than molasses relative to the propagation times involved in a couple hundred feet of coax, or probably even a couple thousand feet. The attenuation per foot of the lines we use is high enough that it's just about impossible to deviate significantly from steady-state conditions for the bandwidths we use.

That's certainly not true for pulsed radar signals, or for fast-scan TV, or for other wideband signals. In those cases, you'll probably find it pays to insure the line is matched to the load so there aren't

significant reflections, and you may want to arrange the source (PA/ transmitter) to have an output impedance close to the line impedance so it absorbs any reflections that do happen at the load end of the line. (If you want to get fancy, you might use a circulator to insure dissipation of such returning signals.)

Cheers,
Tom

1176. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 09:05:01 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <332f1665-3078-4b54-b07c-d1e3ba158fad@v8g2000yqb.googlegroups.com>
Source record: 4877

On 19 mayo, 00:58, Cecil Moore <w5...@hotmail.com> wrote:
> On May 18, 5:42 pm, John KD5YI <soph...@invalid.org> wrote:
>
> > So, we are saying that the load at the line input can be viewed as a
> > lumped circuit. So now we have a transmitter loaded with a lumped
> > circuit for further analysis.
>
> It doesn't quite work that well. I gave an earlier example where Wim
> got the the s11 parameter wrong by an infinite percentage. The s-
> parameter equations for a lumped circuit vs an impedance discontinuity
> are nothing alike.

Hello Cecil,

Would you please remind me to the example where I was completely wrong
with S11?

> Even the IEEE definitions for the two different
> types of impedances are different. The interference conditions at the
> impedance discontinuity can be proven to be different than for the
> lumped circuit replacement.
>
> > That's all. It's simple.
>
> Quoting Einstein again: "Everything should be made as simple as
> possible, but no simpler." :-)
>
> When you switch to the lumped-circuit model, you are agreeing to
> faster than light signal speeds, NO superposition of signals, zero
> interference, zero phase shifts through coils, identical current
> everywhere, etc. How the heck can you assert and prove there is zero
> interference inside a source when reflected energy is flowing through
> it?

Did you ever DESIGNED some serious electronic hardware? I am not
pointing to using a recipe book or troubleshooting/repair.

> --
> 73, Cecil, w5dxp.com

Regarding your helical; I don't have Eznec. Maybe you can use some
screenshots from it, put some comment to it and put that on website,
so we can view it.

Wim

PA3DJS
www.tetech.nl

1177. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 09:09:43 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b6f0f149-2dcb-48d8-8af9-7feedcf68291@w10g2000yqa.googlegroups.com>
Source record: 4878

On 19 mayo, 11:05, Wimpie <wimabc...@tetech.nl> wrote:
> On 19 mayo, 00:58, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On May 18, 5:42 pm, John KD5YI <soph...@invalid.org> wrote:
>
> > > So, we are saying that the load at the line input can be viewed as a
> > > lumped circuit. So now we have a transmitter loaded with a lumped
> > > circuit for further analysis.
>
> > It doesn't quite work that well. I gave an earlier example where Wim
> > got the the s11 parameter wrong by an infinite percentage. The s-
> > parameter equations for a lumped circuit vs an impedance discontinuity
> > are nothing alike.
>
> Hello Cecil,
>
> Would you please remind me to the example where I was completely wrong
> with S11?
>
>
>
> > Even the IEEE definitions for the two different
> > types of impedances are different. The interference conditions at the
> > impedance discontinuity can be proven to be different than for the
> > lumped circuit replacement.
>
> > > That's all. It's simple.
>
> > Quoting Einstein again: "Everything should be made as simple as
> > possible, but no simpler." :-)
>
> > When you switch to the lumped-circuit model, you are agreeing to
> > faster than light signal speeds, NO superposition of signals, zero
> > interference, zero phase shifts through coils, identical current
> > everywhere, etc. How the heck can you assert and prove there is zero
> > interference inside a source when reflected energy is flowing through
> > it?
>
> Did you ever DESIGNED some serious electronic hardware? I am not
> pointing to using a recipe book or troubleshooting/repair.
>
> > --
> > 73, Cecil, w5dxp.com
>

> Regarding your helical; I don't have Eznec. Maybe you can use some
> screenshots from it, put some comment to it and put that on website,
> so we can view it.
>
> Wim
>
> PA3DJS
> www.tetech.nl

remove ED from designed....

Wim

1178. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 12:03:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b62c38a1-c3ed-47b0-bd1a-18fdd891e374@24g2000yqk.googlegroups.com>
Source record: 4879

On May 18, 6:13 pm, John KD5YI <soph...@invalid.org> wrote:
> So, you're saying that the Smith chart is wrong?

The Smith Chart is a tool - a blank graph. How could it be wrong?
Like any tool, it has limitations and can be abused.

On May 19, 4:05 am, Wimpie <wimabc...@tetech.nl> wrote:
> Would you please remind me to the example where I was completely wrong
> with S11?

----50 ohm--+--1/4WL Z0=100--200 ohm load

s11 is 0.3333 at point '+'. Put it in a box and s11 magically becomes
0.0?

The first s11 is a physical reflection coefficient, the second s11 is
a virtual reflection coefficient. The virtual 50 ohm impedance is
lossless. All the power is dissipated in the 200 ohm resistor at a
reflection coefficient of 0.3333.

> Did you ever DESIGNED some serious electronic hardware?

No, but being a good designer has nothing to do with the present
academic exercise. W8JI is a good designer yet concepts like yours led
him to "measure" a 3 ns delay through a 100 uH air-core 80m loading
coil when the actual delay time is closer to 21.5 ns. That's what
happens when one relies on the lumped-circuit model and ignores
reflected energy. The relative phase of a standing wave doesn't change
with length which gives the illusion that the signal is traveling
faster than the speed of light, i.e. zero phase delay.

I will turn the coil example into a brainteaser and post it to my web
page.
--
73, Cecil, w5dxp.com

1179. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 13:04:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <93b96cfe-420a-4d25-a0ed-3f390fdd334d@k27g2000pri.googlegroups.com>
Source record: 4880

On May 19, 4:05 am, Wimpie <wimabc...@tetech.nl> wrote:
> Regarding your helical; I don't have Eznec. Maybe you can use some
> screenshots from it, put some comment to it and put that on website,
> so we can view it.

Here it is: http://www.w5dxp.com/teaser2.JPG
--
73, Cecil, w5dxp.com

1180. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 14:03:23 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <32819835-6316-4d6a-aa77-0531b90576cd@w10g2000yqa.googlegroups.com>
Source record: 4881

On 19 mayo, 15:04, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 4:05 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Regarding your helical; I don't have Eznec. Maybe you can use some
> > screenshots from it, put some comment to it and put that on website,
> > so we can view it.
>
> Here it is:http://www.w5dxp.com/teaser2.JPG
> --
> 73, Cecil, w5dxp.com

Hello Cecil,

Your circuit (lumped inductance example) with 100V input into 72uH
with 2570 Ohms load):

From lumped circuit simulation (Beige Bag PSPICE, version 4
professional):

I_source = 32mA, -35 degrees
I_load = 32mA, -35 degrees

This agrees with hand calculation, all phase with respect to input
voltage.

From simulation, but now a pi filter C=6pF, L=72u, C=6pF, load = 2570
Ohms
Simulation carried out with same PSPICE package without using
transmission line sections:

I_source = 38mA, -1.5 degrees
I_load = 38mA, -44 degrees.

Total required time for setting up the simulations and guessing the
parasitic components to simulate the actual inductor behavior: about
15 minutes.

As you can see good agreement without using any of the photons, speed
of light, momentum and other issues, just lumped circuit simulation
where some parasitics are added. Of course a can make a better match,
but this doesn't contribute to the discussion.

I hope that some followers or contributors will do the same simulation
in a lumped circuit simulator, so that we don't arrive in a discussion
that I am cheating.

Wim
PA3DJS

www.tetech.nl

1181. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 15:21:32 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <02f024bf-ccb3-4090-8535-4e2b05c73807@l18g2000yql.googlegroups.com>
Source record: 4882

On 19 mayo, 14:03, Cecil Moore <w5...@hotmail.com> wrote:
> On May 18, 6:13 pm, John KD5YI <soph...@invalid.org> wrote:
>
> > So, you're saying that the Smith chart is wrong?
>
> The Smith Chart is a tool - a blank graph. How could it be wrong?
> Like any tool, it has limitations and can be abused.
>
> On May 19, 4:05 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Would you please remind me to the example where I was completely wrong
> > with S11?
>
> ----50 ohm--+--1/4WL Z0=100--200 ohm load
>
> s11 is 0.3333 at point '+'. Put it in a box and s11 magically becomes
> 0.0?
>
> The first s11 is a physical reflection coefficient, the second s11 is
> a virtual reflection coefficient. The virtual 50 ohm impedance is
> lossless. All the power is dissipated in the 200 ohm resistor at a
> reflection coefficient of 0.3333.

Cecil,

It is very simple, the 1/4 lamba line (100 Ohms) looks into a 200 Ohms load, so seen from that line, VSWR = 2, hence resulting in RC=0.3333.

The 50 Ohms source looks into a 50 Ohms load (you can use the quarter wave formula). This equals VSWR=1, so RC=0. I think I wasn't wrong! As mentioned before, a source (whether PA or small signal) doesn't see the difference between a lumped 50 Ohms load or your quarter wave line with 200 Ohms load. Whether or not it is "physical" or "virtual" is also not relevant, just the complex V/I ratio (we call that impedance) counts.

The RC inside the line is of no relevance for the PA.

>
> > Did you ever DESIGNED some serious electronic hardware?
>
> No, but being a good designer has nothing to do with the present
> academic exercise.

It may be of importance w.r.t. selecting the right model to solve technical problems. A good example what can happen when selecting

over-the-top approaches is this thread.

> W8JI is a good designer yet concepts like yours led
> him to "measure" a 3 ns delay through a 100 uH air-core 80m loading
> coil when the actual delay time is closer to 21.5 ns. That's what
> happens when one relies on the lumped-circuit model and ignores
> reflected energy. The relative phase of a standing wave doesn't change
> with length which gives the illusion that the signal is traveling
> faster than the speed of light, i.e. zero phase delay.
>
> I will turn the coil example into a brainteaser and post it to my web
> page.
> --
> 73, Cecil, w5dxp.com

Wim
PA3DJS
www.tetech.nl

1182. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 16:59:37 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <9e5a6b3f-9b77-4c95-92da-191743419815@14g2000yqo.googlegroups.com>
Source record: 4883

Hello Cecil,

I would like to return back to the topic with a brainteaser also. You posted links to some document written by Walt. The first reference (QEX, May-June 2001, http://www.w2du.com/QEXMayJun01.pdf) shows some measuring results using load pulling in table one.

I have a source 100Vp, 4 MHz, sinusoidal, in series with a capacitance of 796 pF (that is a capacitive reactance of 50 Ohms). Would you be so kind to determine the output impedance of this source using load pulling (for example using 51.2 Ohms and 44.6 Ohms). Of course I have no problems if you (or somebody else) use a simulator to save time.

If you (or somebody else) feel uncomfortable with a zero ohm voltage source, you may add 1 Ohms in series with the capacitor.

Did you (or somebody else) expect the calculated result based on load pulling?

With kind regards,

Wim
PA3DJS
www.tetech.nl

1183. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 17:53:43 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir3lfb$tt6$1@dont-email.me>
Source record: 4884

On 5/19/2011 7:03 AM, Cecil Moore wrote:
> On May 18, 6:13 pm, John KD5YI<soph...@invalid.org> wrote:
>> So, you're saying that the Smith chart is wrong?
>
> The Smith Chart is a tool - a blank graph. How could it be wrong?
> Like any tool, it has limitations and can be abused.
>

In that case I have no need of S11 or reflections or light. I only need to know that the Smith chart tells me that a 200 ohm load looks like a 50 ohm load through a 1/4WL-100 ohm line. I made it as simple as possible but no simpler.

John

1184. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 18:02:32 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir3lvs$2ao$1@dont-email.me>
Source record: 4885

On 5/19/2011 12:27 AM, K7ITM wrote:
> On May 18, 3:42 pm, John KD5YI<soph...@invalid.org> wrote:
> ...
>> I'm not speaking for Wim, but I think we are both saying the following:
>>
>> * You have a known load
>> * You have a transmission line with known characteristics
>> * Is is possible to use a Smith chart to get the impedance at the input
>> to the transmission line.
>> * We now know the load applied to the transmitter.
>>
>> All we need to know we get from the chart. We admit that reflections are
>> responsible for the impedance transformation from load to line input.
>> But, we don't need to know anything about the reflection details, energy
>> content of the line, nor how light would like it.
>>
>> So, we are saying that the load at the line input can be viewed as a
>> lumped circuit. So now we have a transmitter loaded with a lumped
>> circuit for further analysis.
>>
>> That's all. It's simple.
>>
>> John
>
> Exactly so, John. Good summary. So long as the transmitter's
> bandwidth is small enough that you are always operating practically at
> steady-state conditions, the transmitter can't tell the difference
> between whatever assembly of transmission lines and lumped loads
> distributed along those lines you want, and a simple lumped circuit
> that presents the same impedance as the steady-state value of the
> jumble of transmission lines out there. (For very narrow-band loads,
> you might want to use a lumped equivalent that presents sensibly the
> same impedance as the load across the whole transmitted bandwidth, not
> just at one point.)
>
> It is NOT that anyone is assuming "faster than speed of light," it's
> that we're recognizing that the (HF voice-bandwidth) transmitter is
> slower than molasses relative to the propagation times involved in a
> couple hundred feet of coax, or probably even a couple thousand feet.
> The attenuation per foot of the lines we use is high enough that it's
> just about impossible to deviate significantly from steady-state
> conditions for the bandwidths we use.
>
> That's certainly not true for pulsed radar signals, or for fast-scan

> TV, or for other wideband signals. In those cases, you'll probably
> find it pays to insure the line is matched to the load so there aren't
> significant reflections, and you may want to arrange the source (PA/
> transmitter) to have an output impedance close to the line impedance
> so it absorbs any reflections that do happen at the load end of the
> line. (If you want to get fancy, you might use a circulator to insure
> dissipation of such returning signals.)
>
> Cheers,
> Tom
>

I understand, Tom, and thank your for your input. Of course, we are discussing an ideal setup, so I did not emphasize those points. But, I know you know that. Nevertheless, thank your for the disclaimers.

Cheers & 73,
John

1185. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 18:25:39 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6711cc07-3a05-49bb-8f6d-9c9e40920576@d19g2000prh.googlegroups.com>
Source record: 4886

On May 19, 9:03 am, Wimpie <wimabc...@tetech.nl> wrote:
> From simulation, but now a pi filter C=6pF, L=72u, C=6pF, load = 2570
> Ohms

You just proved one of my points. Inventing impedors that do not exist in reality in order to rationalize the real-world delay through a real-world loading coil is exactly what I have been complaining about. Are the imaginary lumped-circuit capacitors, to which you are forced to resort, part of the actual impedance in reality or a figment of your imagination?

http://hamwaves.com/antennas/inductance/corum.pdf
"The concept of coil 'self-capacitance' is an attempt to circumvent transmission line effects on small coils when the current distribution begins to depart from its DC behavior." About the capacitors you added above it says: "Of course, this is merely a statistical determination appropriate for computations ... and *not at all a physical quantity*."

The reason that the source voltage and source current are in phase in the example is because the load resistor equals the Z0 of the coil which is functioning in transmission line mode with a VF = 0.019, i.e. like a transmission line, it is indeed 0.1167 wavelengths long electrically. I have verified such (within a certain degree of accuracy) through bench experiments.
--
73, Cecil, w5dxp.com

1186. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 18:38:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2cff448a-f228-407a-ac2e-55b9d6a2fdda@r33g2000prh.googlegroups.com>
Source record: 4887

On May 19, 11:59 am, Wimpie <wimabc...@tetech.nl> wrote:
> I have a source 100Vp, 4 MHz, sinusoidal, in series with a capacitance
> of 796 pF (that is a capacitive reactance of 50 Ohms).

:-) I saw a similar example over a half-century ago - a zero ohm
source that is 100% efficient no matter what the load. A conjugate
match provides enough power to destroy the universe. Question is: If a
source impedance is a pure reactance, can it deliver any power?
--
73, Cecil, w5dxp.com

1187. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 18:53:06 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8d133592-308c-4d93-823b-eb771e58365d@r20g2000yqd.googlegroups.com>
Source record: 4888

On May 19, 12:53 pm, John KD5YI <soph...@invalid.org> wrote:
> In that case I have no need of S11 or reflections or light. I only need
> to know that the Smith chart tells me that a 200 ohm load looks like a
> 50 ohm load through a 1/4WL-100 ohm line.

Well there you go - my point exactly - it "looks like" but appearances
can be deceiving. You and I know that they are not identical because
we are smarter than the average bear and the IEEE has different
definitions for those two radically different kinds of impedances. We
know that it is a virtual image of 50 ohms because no 50 ohm resistor
exists in reality and no zero reflection coefficient exists in
reality. In mathematical terms, there is no one to one correspondence
between a 50 ohm dummy load and a 50 ohm antenna.
--
73, Cecil, w5dxp.com

1188. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 19:17:17 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <67fd0da9-5fc9-44ff-bd62-5d51a81f67fc@w10g2000yqa.googlegroups.com>
Source record: 4889

On 19 mayo, 20:38, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 11:59 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > I have a source 100Vp, 4 MHz, sinusoidal, in series with a capacitance
> > of 796 pF (that is a capacitive reactance of 50 Ohms).
>
> :-) I saw a similar example over a half-century ago - a zero ohm
> source that is 100% efficient no matter what the load. A conjugate
> match provides enough power to destroy the universe. Question is: If a
> source impedance is a pure reactance, can it deliver any power?
> --
> 73, Cecil, w5dxp.com

Cecil,

Just solve this source brainteaser (that contains the capacitor) with
the principles outlined in a reference provided by you. Efficiency is
not of importance here, so please don't lure us into new non-relevant
issues.

Though its seems just theoretically, I source providing 100W at 4 MHz
with Zout is = 1 ohm (or less) can be made with today's components.

Wim
PA3DJS
www.tetech.nl

1189. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 19:26:17 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <5f8d7b38-4a1b-4be1-bf4f-a019bc312201@z13g2000prk.googlegroups.com>
Source record: 4890

On May 19, 11:25 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 9:03 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > From simulation, but now a pi filter C=6pF, L=72u, C=6pF, load = 2570
> > Ohms
>
> You just proved one of my points. Inventing impedors that do not exist
> in reality in order to rationalize the real-world delay through a real-
> world loading coil is exactly what I have been complaining about. Are
> the imaginary lumped-circuit capacitors, to which you are forced to
> resort, part of the actual impedance in reality or a figment of your
> imagination?
>
> http://hamwaves.com/antennas/inductance/corum.pdf
> "The concept of coil 'self-capacitance' is an attempt to circumvent
> transmission line effects on small coils when the current distribution
> begins to depart from its DC behavior." About the capacitors you added
> above it says: "Of course, this is merely a statistical determination
> appropriate for computations ... and *not at all a physical
> quantity*."
>
> The reason that the source voltage and source current are in phase in
> the example is because the load resistor equals the Z0 of the coil
> which is functioning in transmission line mode with a VF = 0.019, i.e.
> like a transmission line, it is indeed 0.1167 wavelengths long
> electrically. I have verified such (within a certain degree of
> accuracy) through bench experiments.
> --
> 73, Cecil, w5dxp.com

First I'll point out that the model Wim used doesn't match "the concept of coil self-capacitance," so it's not clear that the rest of what you wrote is relevant.

Now, what do you do about your coils when you discover that they do NOT behave like a TEM transmission line? Indeed they do not; it's pretty easy to verify from measurements on real coils and real circuits. It seems like now you are stuck, because you (seem to) have a lot of trouble looking at a circuit and understanding what's really important and what isn't, with regard to performance in a particular application. Sometimes it's appropriate to use a model that goes well beyond a simple transmission line model of a coil; sometimes the simple transmission line model is far more complex than you need. See Wim's previous posting about the value of understanding that.

FWIW, I understand perfectly well where the capacitances Wim put into his model come from. I know exactly how I would estimate them from a particular physical configuration, and I suppose Wim does something very similar to what I would. They come very much from the real physical world, not from our imaginations.

Cheers,
Tom

1190. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 19:51:29 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <14220ccc-60e7-4d97-aa85-e87d6e84657c@x1g2000yqb.googlegroups.com>
Source record: 4891

On 19 mayo, 20:25, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 9:03 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > From simulation, but now a pi filter C=6pF, L=72u, C=6pF, load = 2570
> > Ohms
>
> You just proved one of my points. Inventing impedors that do not exist
> in reality in order to rationalize the real-world delay through a real-
> world loading coil is exactly what I have been complaining about. Are
> the imaginary lumped-circuit capacitors, to which you are forced to
> resort, part of the actual impedance in reality or a figment of your
> imagination?
>
> http://hamwaves.com/antennas/inductance/corum.pdf
> "The concept of coil 'self-capacitance' is an attempt to circumvent
> transmission line effects on small coils when the current distribution
> begins to depart from its DC behavior." About the capacitors you added
> above it says: "Of course, this is merely a statistical determination
> appropriate for computations ... and *not at all a physical
> quantity*."
>
> The reason that the source voltage and source current are in phase in
> the example is because the load resistor equals the Z0 of the coil
> which is functioning in transmission line mode with a VF = 0.019, i.e.
> like a transmission line, it is indeed 0.1167 wavelengths long
> electrically. I have verified such (within a certain degree of
> accuracy) through bench experiments.
> --
> 73, Cecil, w5dxp.com

Cecil,

Lumped circuit approach gives a good solution for your brainteaser
(maybe against your expectations or hope). It is just distributed
capacitance to ground that can be concentrated into 1 or more
capacitors if you are well below the first resonance frequency.

In a real application when using a lumped 72uH inductor for
calculations, one will find out that the capacitors for a certain
application (for example pi-filter section) have to be somewhat
smaller then based on the lumped circuit calculation.

Regarding transmission line behavior
It is the reason to mention "without using transmission line
sections". Because my PSPICE package also allows use of transmission

lines, if convenient I use them. Do you know how I made my first guess for the capacitors? Just by using transmission line theory. BTW, what is the wire length of the inductor in your HF rig (for 4 MHz band)? It is very likely well below the length for the bugcatcher example.

Did you know that many delay lines were/are made by using multiple CLC sections (for example used in oscilloscopes)?

Again, look to the circuits of your rig, do you really think that the design is carried out by modelling each component as a transmission line. The answer is no (for sure).

We have various religions around the globe; I think we don't need another one based on transmission lines! Maybe for you it was wonderful to explore transmission line theory, but for RF Engineers/ Designers (antenna designers included), it is just one of their means to get the job done.

Wim
PA3DJS
www.tetech.nl

1191. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 19:52:01 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c0001127-c6db-4b97-8c4b-c319103d1662@v10g2000yqn.googlegroups.com>
Source record: 4892

On 19 mayo, 20:25, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 9:03 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > From simulation, but now a pi filter C=6pF, L=72u, C=6pF, load = 2570
> > Ohms
>
> You just proved one of my points. Inventing impedors that do not exist
> in reality in order to rationalize the real-world delay through a real-
> world loading coil is exactly what I have been complaining about. Are
> the imaginary lumped-circuit capacitors, to which you are forced to
> resort, part of the actual impedance in reality or a figment of your
> imagination?
>
> http://hamwaves.com/antennas/inductance/corum.pdf
> "The concept of coil 'self-capacitance' is an attempt to circumvent
> transmission line effects on small coils when the current distribution
> begins to depart from its DC behavior." About the capacitors you added
> above it says: "Of course, this is merely a statistical determination
> appropriate for computations ... and *not at all a physical
> quantity*."
>
> The reason that the source voltage and source current are in phase in
> the example is because the load resistor equals the Z0 of the coil
> which is functioning in transmission line mode with a VF = 0.019, i.e.
> like a transmission line, it is indeed 0.1167 wavelengths long
> electrically. I have verified such (within a certain degree of
> accuracy) through bench experiments.
> --
> 73, Cecil, w5dxp.com

Cecil,

Lumped circuit approach gives a good solution for your brainteaser
(maybe against your expectations or hope). It is just distributed
capacitance to ground that can be concentrated into 1 or more
capacitors if you are well below the first resonance frequency.

In a real application when using a lumped 72uH inductor for
calculations, one will find out that the capacitors for a certain
application (for example pi-filter section) have to be somewhat
smaller then based on the lumped circuit calculation.

Regarding transmission line behavior
It is the reason to mention "without using transmission line
sections". Because my PSPICE package also allows use of transmission

lines, if convenient I use them. Do you know how I made my first guess for the capacitors? Just by using transmission line theory. BTW, what is the wire length of the inductor in your HF rig (for 4 MHz band)? It is very likely well below the length for the bugcatcher example.

Did you know that many delay lines were/are made by using multiple CLC sections (for example used in oscilloscopes)?

Again, look to the circuits of your rig, do you really think that the design is carried out by modelling each component as a transmission line. The answer is no (for sure).

We have various religions around the globe; I think we don't need another one based on transmission lines! Maybe for you it was wonderful to explore transmission line theory, but for RF Engineers/ Designers (antenna designers included), it is just one of their means to get the job done.

Wim
PA3DJS
www.tetech.nl

1192. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 20:04:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <85a9f73b-24af-4cd4-8637-7e9aff496519@l26g2000yqm.googlegroups.com>
Source record: 4893

On May 19, 2:17 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Just solve this source brainteaser (that contains the capacitor) with
> the principles outlined in a reference provided by you.

Maximum power transfer occurs when the load is the conjugate of the
source impedance. Of course, in this case, when the source is purely
reactive, no power transfer is possible with a conjugate match. I
don't think our models were designed to handle magical situations so
I'm assuming this exercise is designed to waste my time (of which I
have precious little left). Come to think of it, didn't you call my
examples, "off topic", and refuse to have anything to do with them?
--
73, Cecil, w5dxp.com

1193. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 20:10:33 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir3tfttjf1@dont-email.me>
Source record: 4894

On 5/19/2011 2:26 PM, K7ITM wrote:
> On May 19, 11:25 am, Cecil Moore<w5...@hotmail.com> wrote:
>> On May 19, 9:03 am, Wimpie<wimabc...@tetech.nl> wrote:
>>
>>> From simulation, but now a pi filter C=6pF, L=72u, C=6pF, load = 2570
>>> Ohms
>>
>> You just proved one of my points. Inventing impedors that do not exist
>> in reality in order to rationalize the real-world delay through a real-
>> world loading coil is exactly what I have been complaining about. Are
>> the imaginary lumped-circuit capacitors, to which you are forced to
>> resort, part of the actual impedance in reality or a figment of your
>> imagination?
>>
>> http://hamwaves.com/antennas/inductance/corum.pdf
>> "The concept of coil 'self-capacitance' is an attempt to circumvent
>> transmission line effects on small coils when the current distribution
>> begins to depart from its DC behavior." About the capacitors you added
>> above it says: "Of course, this is merely a statistical determination
>> appropriate for computations ... and *not at all a physical
>> quantity*."
>>
>> The reason that the source voltage and source current are in phase in
>> the example is because the load resistor equals the Z0 of the coil
>> which is functioning in transmission line mode with a VF = 0.019, i.e.
>> like a transmission line, it is indeed 0.1167 wavelengths long
>> electrically. I have verified such (within a certain degree of
>> accuracy) through bench experiments.
>> --
>> 73, Cecil, w5dxp.com
>
> First I'll point out that the model Wim used doesn't match "the
> concept of coil self-capacitance," so it's not clear that the rest of
> what you wrote is relevant.
>
> Now, what do you do about your coils when you discover that they do
> NOT behave like a TEM transmission line? Indeed they do not; it's
> pretty easy to verify from measurements on real coils and real
> circuits. It seems like now you are stuck, because you (seem to) have
> a lot of trouble looking at a circuit and understanding what's really
> important and what isn't, with regard to performance in a particular
> application. Sometimes it's appropriate to use a model that goes well
> beyond a simple transmission line model of a coil; sometimes the
> simple transmission line model is far more complex than you need. See

> Wim's previous posting about the value of understanding that.
>
> FWIW, I understand perfectly well where the capacitances Wim put into
> his model come from. I know exactly how I would estimate them from a
> particular physical configuration, and I suppose Wim does something
> very similar to what I would. They come very much from the real
> physical world, not from our imaginations.
>
> Cheers,
> Tom

And, I find the lack of stray capacitance in Cecil's model much harder
to believe than the presence of them in Wim's model.

John

1194. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 20:21:22 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir3u4p$3lg$1@dont-email.me>
Source record: 4895

On 5/19/2011 1:53 PM, Cecil Moore wrote:
> On May 19, 12:53 pm, John KD5YI<soph...@invalid.org> wrote:
>> In that case I have no need of S11 or reflections or light. I only need
>> to know that the Smith chart tells me that a 200 ohm load looks like a
>> 50 ohm load through a 1/4WL-100 ohm line.
>
> Well there you go - my point exactly - it "looks like" but appearances
> can be deceiving. You and I know that they are not identical because
> we are smarter than the average bear and the IEEE has different
> definitions for those two radically different kinds of impedances. We
> know that it is a virtual image of 50 ohms because no 50 ohm resistor
> exists in reality and no zero reflection coefficient exists in
> reality. In mathematical terms, there is no one to one correspondence
> between a 50 ohm dummy load and a 50 ohm antenna.
> --
> 73, Cecil, w5dxp.com

Well, Cecil, we've now reached the end. No resistor exists in reality so
no transmitters, waves, light, transmission lines exists in reality.
There is no one to one correspondence between you and sanity.

This is just plain stupid. You only want to argue.

John

1195. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 20:27:11 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <5bf34efc-f83a-430d-b21b-7306ccb2fbb3@b42g2000yqi.googlegroups.com>
Source record: 4896

On 19 mayo, 20:25, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 9:03 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > From simulation, but now a pi filter C=6pF, L=72u, C=6pF, load = 2570
> > Ohms
>
> You just proved one of my points. Inventing impedors that do not exist
> in reality in order to rationalize the real-world delay through a real-
> world loading coil is exactly what I have been complaining about. Are
> the imaginary lumped-circuit capacitors, to which you are forced to
> resort, part of the actual impedance in reality or a figment of your
> imagination?
>
> http://hamwaves.com/antennas/inductance/corum.pdf
> "The concept of coil 'self-capacitance' is an attempt to circumvent
> transmission line effects on small coils when the current distribution
> begins to depart from its DC behavior." About the capacitors you added
> above it says: "Of course, this is merely a statistical determination
> appropriate for computations ... and *not at all a physical
> quantity*."
>
> The reason that the source voltage and source current are in phase in
> the example is because the load resistor equals the Z0 of the coil
> which is functioning in transmission line mode with a VF = 0.019, i.e.
> like a transmission line, it is indeed 0.1167 wavelengths long
> electrically. I have verified such (within a certain degree of
> accuracy) through bench experiments.
> --
> 73, Cecil, w5dxp.com

Cecil,

Lumped circuit approach gives a good solution for your brainteaser
(maybe against your expectations or hope). It is just distributed
capacitance to ground that can be concentrated into 1 or more
capacitors if you are well below the first resonance frequency.

In a real application when using a lumped 72uH inductor for
calculations, one will find out that the capacitors for a certain
application (for example pi-filter section) have to be somewhat
smaller then based on the lumped circuit calculation.

Regarding transmission line behavior
It is the reason to mention "without using transmission line
sections". Because my PSPICE package also allows use of transmission

lines, if convenient I use them. Do you know how I made my first guess for the capacitors? Just by using transmission line theory. BTW, what is the wire length of the inductor in your HF rig (for 4 MHz band)? It is very likely well below the length for the bugcatcher example.

Did you know that many delay lines were/are made by using multiple CLC sections (for example used in oscilloscopes)?

Again, look to the circuits of your rig, do you really think that the design is carried out by modelling each component as a transmission line. The answer is no (for sure).

We have various religions around the globe; I think we don't need another one based on transmission lines! Maybe for you it was wonderful to explore transmission line theory, but for RF Engineers/ Designers (antenna designers included), it is just one of their means to get the job done.

Wim
PA3DJS
www.tetech.nl

1196. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 21:15:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e748def1-7e71-45e8-b0bb-a9aefac15667@x1g2000yqb.googlegroups.com>
Source record: 4897

On May 19, 3:21 pm, John KD5YI <soph...@invalid.org> wrote:
> This is just plain stupid.

I agree. Your above posting is just plain stupid. You are stating the opposite of what I have said hoping some readers will not notice. Resistors exist *in reality* e.g. in dummy loads. You are promoting E/I ratios, existing as virtual resistances, to be as real as a physical resistor. Hopefully, no one ever loads his virtual gun with one of those virtual resistances and fires it at you. Question is, would you die or not? It has been said that everyone creates his own reality and it must be true. You guys have created models of reality in your minds that bear very little resemblance to the real world.

In the field of optics, an real image that actually exists in reality is clearly differentiated from a virtual image which is an illusion that doesn't actually exist where it appears to exist. Light waves are EM waves. RF waves are EM waves. You guys are promoting a model that considers virtual images to actually exist at the point where they appear to exist but are only an illusion. I agree with you - that is just plain stupid.

To summarize: Resistors, capacitors, and inductors, defined under the concept of impedors (from "The IEEE Dictionary") are real-world devices with a physical existence - one can pick them up and touch them.

E/I ratios, containing resistance plus capacitive or inductive reactance, are impedances that do not have a physical existence. Their existence is conceptual and exists only in human minds capable of concepts (much like the concept of God).

When you are standing four feet from a mirror and your image appears four feet behind the mirror, you are arguing that you can replace your actual self with an alternate self four feet behind the mirror and everything will be exactly the same. I agree with you - that is just plain stupid.
--
73, Cecil, w5dxp.com

1197. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 21:23:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b17cde86-d603-48e4-8d79-1822d4458b2a@p13g2000yqh.googlegroups.com>
Source record: 4898

On May 19, 3:27 pm, Wimpie <wimabc...@tetech.nl> wrote:
> We have various religions around the globe; I think we don't need
> another one based on transmission lines!

Actually, what I am attempting to do is discourage your lumped-circuit
religion, where a 100 uH, 10" long coil, can propagate an RF signal in
3 ns, and move you guys closer to the reality of Maxwell's equations.
--
73, Cecil, w5dxp.com

1198. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 21:46:08 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b069e855-92e9-4d8e-aafd-0bc8afa0c2b1@x1g2000yqb.googlegroups.com>
Source record: 4899

On 19 mayo, 23:15, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 3:21 pm, John KD5YI <soph...@invalid.org> wrote:
>
> > This is just plain stupid.
>
> I agree. Your above posting is just plain stupid. You are stating the
> opposite of what I have said hoping some readers will not notice.
> Resistors exist *in reality* e.g. in dummy loads. You are promoting E/
> I ratios, existing as virtual resistances, to be as real as a physical
> resistor. Hopefully, no one ever loads his virtual gun with one of
> those virtual resistances and fires it at you. Question is, would you
> die or not? It has been said that everyone creates his own reality and
> it must be true. You guys have created models of reality in your minds
> that bear very little resemblance to the real world.
>
> In the field of optics, an real image that actually exists in reality
> is clearly differentiated from a virtual image which is an illusion
> that doesn't actually exist where it appears to exist. Light waves are
> EM waves. RF waves are EM waves. You guys are promoting a model that
> considers virtual images to actually exist at the point where they
> appear to exist but are only an illusion. I agree with you - that is
> just plain stupid.
>
> To summarize: Resistors, capacitors, and inductors, defined under the
> concept of impedors (from "The IEEE Dictionary") are real-world
> devices with a physical existence - one can pick them up and touch
> them.
>
> E/I ratios, containing resistance plus capacitive or inductive
> reactance, are impedances that do not have a physical existence. Their
> existence is conceptual and exists only in human minds capable of
> concepts (much like the concept of God).
>
> When you are standing four feet from a mirror and your image appears
> four feet behind the mirror, you are arguing that you can replace your
> actual self with an alternate self four feet behind the mirror and
> everything will be exactly the same. I agree with you - that is just
> plain stupid.
> --
> 73, Cecil, w5dxp.com

Cecil,

I already expected that you wouldn't solve my brainteaser (so I did it
in advance), Here is the result for the 100V, 4 MHz sinusoidal source

in series with 796pF, load pulling with 51.2 Ohms and 44.6 Ohms:

V_out (51.2 Ohms) = 71.5V, I_out = 1.396A
V_out (44.6 Ohms) = 66.5V, I_out = 1.491A

Delta_V = 5.0V, Delta_I = 0.095A,

Hence Rout = 52.6 Ohms.

Power into 50 Ohms = 50W.

¡Really strange!, that a fully imaginary output impedance of -j50 Ohms results in real 52.6 Ohms output impedance based on the scalar load pulling referenced by you.

I also applied complex load pulling (that is taking phase change into account) and Tom's off-carrier injection method to the same source. Both methods put out Zout = -j50 Ohms (yes, the correct value).

You are criticizing Tom's method without any solid foundation, but you referenced to a method with very limited application as shown in this simple example.

You are mixing coherent signal theory with non-coherent signal theory (narrow band RF versus unspecified optical), also your reply above has no relevance to PA's for HF amateur service.

Cecil, we have all our specialities and limitations. It is becoming clear that you lack experience in the field of signal processing and RF (systems) Engineering. This is no problem, because many people can live without it. Instead of continuing the way you do, you can better try to grab some of the concepts offered by others. I am sure it will give you better insight in what happens in RF systems, in considerably less time.

Wim
PA3DJS
www.tetech.nl

1199. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 22:22:13 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b7e6b4ef-a51f-4e98-ad0d-8b68eabf22f0@14g2000yqo.googlegroups.com>
Source record: 4900

On 19 mayo, 23:23, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 3:27 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > We have various religions around the globe; I think we don't need
> > another one based on transmission lines!
>
> Actually, what I am attempting to do is discourage your lumped-circuit
> religion, where a 100 uH, 10" long coil, can propagate an RF signal in
> 3 ns, and move you guys closer to the reality of Maxwell's equations.
> --
> 73, Cecil, w5dxp.com

Hello Cecil,

I am not addicted to "lumped circuits", I just use the appropriate
model. Many amateurs built and / or designed their own HF PA (and
other circuitry relevant to the hobby). Do you really think that they
all considered every component to be a transmission line?

Transmission lines in general.
I agree with Tom, "Transmission line approach" is also just a model
with limited validity. It all depends on the Engineer/Designer whether
to use it or misuse it.

Wim
PA3DJS
www.tetech.nl

1200. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 23:08:53 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir47u9$2p9$1@dont-email.me>
Source record: 4751

On 5/19/2011 12:27 AM, K7ITM wrote:

By the way, have you seen this:

http://www.vk1od.net/transmissionline/W5DXPEA.htm

?

1201. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-19 23:33:37 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir49claeg1@dont-email.me>
Source record: 4752

On 4/25/2011 7:35 PM, Sal M. Onella wrote:
> This group has presented members with valuable lessons in antennas and
> transmission lines, like how to measure, how to match, etc.
>
> Something I haven't seen is a discussion of the source impedance of
> the transmitter. My curiosity was piqued today as I took some baby
> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> While this is hardly news, it got me wondering whether a 75-ohm cable
> will load the transmitter the same. Doesn't seem like it.
>
> My point: Using 75-ohm cable to improve the match at the antenna
> won't help me ... IF ... I suffer a corresponding loss due to
> mismatch at the back of the radio. My HF radios, all solid state,
> specify a 50 ohm load. As necessary, I routinely use an internal
> autotuner and either of two external manual tuners. (I'm aware of the
> published 1/12 wavelength matching method.)
>
> Wisdom in any form would be appreciated. Thanks.
>
> "Sal"
> (KD6VKW)

Hey, Sal -

Lots of good stuff here:

http://www.vk1od.net/

Fun reading.

Cheers & 73,
John

1202. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 02:30:49 UTC
From: walt <walt@w2du.com>
Message-ID: <d307819c-360d-44f9-a416-617999bb4a91@j31g2000yqe.googlegroups.com>
Source record: 4753

On May 19, 7:33 pm, John KD5YI <soph...@invalid.org> wrote:
> On 4/25/2011 7:35 PM, Sal M. Onella wrote:
>
>
>
>
>
>
>
>
>
>
> > This group has presented members with valuable lessons in antennas and
> > transmission lines, like how to measure, how to match, etc.
>
> > Something I haven't seen is a discussion of the source impedance of
> > the transmitter. My curiosity was piqued today as I took some baby
> > steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> > with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> > While this is hardly news, it got me wondering whether a 75-ohm cable
> > will load the transmitter the same. Doesn't seem like it.
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> > My point: Using 75-ohm cable to improve the match at the antenna
> > won't help me ... IF ... I suffer a corresponding loss due to
> > mismatch at the back of the radio. My HF radios, all solid state,
> > specify a 50 ohm load. As necessary, I routinely use an internal
> > autotuner and either of two external manual tuners. (I'm aware of the
> > published 1/12 wavelength matching method.)
>
> > Wisdom in any form would be appreciated. Thanks.
>
> > "Sal"
> > (KD6VKW)
>
> Hey, Sal -
>
> Lots of good stuff here:
>
> http://www.vk1od.net/
>
> Fun reading.
>
> Cheers & 73,
> John

John, I have always had great respect for VK1OD, but in the URL you presented above I must take Dave to task for asserting that Cecil's concept is suspect, simply because he didn't include attenuation in the analysis of the lines.

Correct me if I'm wrong, but seems to me that a competent engineer begins an analysis assuming lines and components are lossless. Then, if the losses are going to be significant, he factors in the effects of attenuation. If the losses are insignificant he ignores them.

In Cecil's paper he is not ignoring attenuation because he doesn't understand its significance, he is ignoring it only because in beginning the analysis it isn't significant. Cecil doesn't deserve that unfortunate treatment.

Walt

1203. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 02:46:35 UTC
From: walt <walt@w2du.com>
Message-ID: <94e4d6d8-9d33-47ca-8a52-4fb13ed2cf35@n10g2000yqf.googlegroups.com>
Source record: 4754

On May 19, 7:33 pm, John KD5YI <soph...@invalid.org> wrote:
> On 4/25/2011 7:35 PM, Sal M. Onella wrote:
>
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>
> > This group has presented members with valuable lessons in antennas and
> > transmission lines, like how to measure, how to match, etc.
>
> > Something I haven't seen is a discussion of the source impedance of
> > the transmitter. My curiosity was piqued today as I took some baby
> > steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> > with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> > While this is hardly news, it got me wondering whether a 75-ohm cable
> > will load the transmitter the same. Doesn't seem like it.
>
> > My point: Using 75-ohm cable to improve the match at the antenna
> > won't help me ... IF ... I suffer a corresponding loss due to
> > mismatch at the back of the radio. My HF radios, all solid state,
> > specify a 50 ohm load. As necessary, I routinely use an internal
> > autotuner and either of two external manual tuners. (I'm aware of the
> > published 1/12 wavelength matching method.)
>
> > Wisdom in any form would be appreciated. Thanks.
>
> > "Sal"
> > (KD6VKW)
>
> Hey, Sal -
>
> Lots of good stuff here:
>
> http://www.vk1od.net/
>
> Fun reading.
>
> Cheers & 73,
> John

Wim, in your calculation of PA output resistance via load pull, you state:

"...load pulling with 51.2 Ohms and 44.6 Ohms:
V_out (51.2 Ohms) = 71.5V, I_out = 1.396A
V_out (44.6 Ohms) = 66.5V, I_out = 1.491A
Delta_V = 5.0V, Delta_I = 0.095A,
Hence Rout = 52.6 Ohms."

The following is what I obtained through actual measurement via load pull:

Vout (51.2 ohms = 76.9v, Iout = 1.502a
Vout (44.6 ohms) = 71.6v, Iout = 1.605a
Delta V 5.3v, Delta I = 0.1034a
Hence Rout = 51.2 ohms

Wouldn't you agree that my measurement method and procedure are pretty well on track?

Walt

1204. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 03:30:46 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <882bda7f-8d18-4136-b2af-533b1884c179@22g2000prx.googlegroups.com>
Source record: 4755

On May 19, 4:08 pm, John KD5YI <soph...@invalid.org> wrote:
> On 5/19/2011 12:27 AM, K7ITM wrote:
>
> By the way, have you seen this:
>
> http://www.vk1od.net/transmissionline/W5DXPEA.htm
>
> ?

I hadn't seen that particular one, John. While looking at it, though,
I clipped off the last of the URL to get to Owen's transmission lines
page. Lots of recommended reading there. I've always found Owen's
musings to be well thought out and thought-provoking.

Cheers,
Tom

1205. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 03:50:18 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir4odv$li0$1@dont-email.me>
Source record: 4756

On 5/19/2011 10:30 PM, K7ITM wrote:
> On May 19, 4:08 pm, John KD5YI<soph...@invalid.org> wrote:
>> On 5/19/2011 12:27 AM, K7ITM wrote:
>>
>> By the way, have you seen this:
>>
>> http://www.vk1od.net/transmissionline/W5DXPEA.htm
>>
>> ?
>
> I hadn't seen that particular one, John. While looking at it, though,
> I clipped off the last of the URL to get to Owen's transmission lines
> page. Lots of recommended reading there. I've always found Owen's
> musings to be well thought out and thought-provoking.
>
> Cheers,
> Tom

I agree wholeheartedly, Tom. He used to be present here and I followed his posts with enthusiasm. Alas, he has not posted in some time now.

I emailed him and inquired as to his well-being tonight. I hope he can rejoin us in the future.

Cheers,
John

1206. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 03:53:27 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ir4ojr$li0$2@dont-email.me>
Source record: 4757

On 5/19/2011 9:30 PM, walt wrote:
> On May 19, 7:33 pm, John KD5YI<soph...@invalid.org> wrote:
>> On 4/25/2011 7:35 PM, Sal M. Onella wrote:
>>
>>
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>>
>>> This group has presented members with valuable lessons in antennas and
>>> transmission lines, like how to measure, how to match, etc.
>>
>>> Something I haven't seen is a discussion of the source impedance of
>>> the transmitter. My curiosity was piqued today as I took some baby
>>> steps into EZNEC. A particular antenna had such-and-such VSWR if fed
>>> with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>>
>>> While this is hardly news, it got me wondering whether a 75-ohm cable
>>> will load the transmitter the same. Doesn't seem like it.
>>
>>> My point: Using 75-ohm cable to improve the match at the antenna
>>> won't help me ... IF ... I suffer a corresponding loss due to
>>> mismatch at the back of the radio. My HF radios, all solid state,
>>> specify a 50 ohm load. As necessary, I routinely use an internal
>>> autotuner and either of two external manual tuners. (I'm aware of the
>>> published 1/12 wavelength matching method.)
>>
>>> Wisdom in any form would be appreciated. Thanks.
>>
>>> "Sal"
>>> (KD6VKW)
>>
>> Hey, Sal -
>>
>> Lots of good stuff here:
>>
>> http://www.vk1od.net/
>>
>> Fun reading.
>>
>> Cheers& 73,

>> John
>
>
> John, I have always had great respect for VK1OD, but in the URL you
> presented above I must take Dave to task for asserting that Cecil's
> concept is suspect, simply because he didn't include attenuation in
> the analysis of the lines.
>
> Correct me if I'm wrong, but seems to me that a competent engineer
> begins an analysis assuming lines and components are lossless. Then,
> if the losses are going to be significant, he factors in the effects
> of attenuation. If the losses are insignificant he ignores them.
>
> In Cecil's paper he is not ignoring attenuation because he doesn't
> understand its significance, he is ignoring it only because in
> beginning the analysis it isn't significant. Cecil doesn't deserve
> that unfortunate treatment.
>
> Walt

I do not disagree, Walt, and I do understand why Cecil chose his approach.

John

1207. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 09:27:06 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c2e2f64d-1887-4da0-8b48-90efb598db29@l26g2000yqm.googlegroups.com>
Source record: 4758

On 20 mayo, 04:46, walt <w...@w2du.com> wrote:
> On May 19, 7:33 pm, John KD5YI <soph...@invalid.org> wrote:
>
>
>
> > On 4/25/2011 7:35 PM, Sal M. Onella wrote:
>
> > > This group has presented members with valuable lessons in antennas and
> > > transmission lines, like how to measure, how to match, etc.
>
> > > Something I haven't seen is a discussion of the source impedance of
> > > the transmitter. My curiosity was piqued today as I took some baby
> > > steps into EZNEC. A particular antenna had such-and-such VSWR if fed
> > > with a 50-ohm cable and a different value if fed with a 75-ohm cable.
>
> > > While this is hardly news, it got me wondering whether a 75-ohm cable
> > > will load the transmitter the same. Doesn't seem like it.
>
> > > My point: Using 75-ohm cable to improve the match at the antenna
> > > won't help me ... IF ... I suffer a corresponding loss due to
> > > mismatch at the back of the radio. My HF radios, all solid state,
> > > specify a 50 ohm load. As necessary, I routinely use an internal
> > > autotuner and either of two external manual tuners. (I'm aware of the
> > > published 1/12 wavelength matching method.)
>
> > > Wisdom in any form would be appreciated. Thanks.
>
> > > "Sal"
> > > (KD6VKW)
>
> > Hey, Sal -
>
> > Lots of good stuff here:
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> >http://www.vk1od.net/
>
> > Fun reading.
>
> > Cheers & 73,
> > John
>
> Wim, in your calculation of PA output resistance via load pull, you
> state:
>

> "...load pulling with 51.2 Ohms and 44.6 Ohms:
> V_out (51.2 Ohms) = 71.5V, I_out = 1.396A
> V_out (44.6 Ohms) = 66.5V, I_out = 1.491A
> Delta_V = 5.0V, Delta_I = 0.095A,
> Hence Rout = 52.6 Ohms."
>
> The following is what I obtained through actual measurement via load
> pull:
>
> Vout (51.2 ohms = 76.9v, Iout = 1.502a
> Vout (44.6 ohms) = 71.6v, Iout = 1.605a
> Delta V 5.3v, Delta I = 0.1034a
> Hence Rout = 51.2 ohms
>
> Wouldn't you agree that my measurement method and procedure are pretty
> well on track?
>
> Walt

Hello Walt,

If you would read again my posting (you removed my source description), I didn't refer to your actual measurements, but referred to your measurement method applied to my source example (my source example is 100Vp in series with -j50 Ohm).

I hope this makes clear the differences.

Wim
PA3DJS
www.tetech.nl

1208. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 12:42:36 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f2d7c696-7314-4f8c-bb1a-f565381033fe@w21g2000yqm.googlegroups.com>
Source record: 4759

On May 19, 5:22 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Many amateurs built and / or designed their own HF PA (and
> other circuitry relevant to the hobby). Do you really think that they
> all considered every component to be a transmission line?

You apparently have not comprehended what I am trying to say. When one is designing a piece of equipment, whatever works, works. Please don't confuse design/analysis techniques and rule-of-thumb shortcuts with the underlying principles supporting the laws of physics. Enumerating all the design techniques in the world does not tell us anything about what is happening in reality to those photonic fields and waves that necessarily must obey the laws of physics.

Even DC impulses travel at the speed of light. Electron drift velocity is much, much slower than the speed of light. Everything EM is photonic in nature. Photons must obey the laws of physics known to exist for photons. There is simply no getting around that fact. All of the magical thinking, hand-waving, design/analysis shortcuts, and rules-of-thumb in the world are not going to change those facts of physics.

If you do not understand those physical limitations (including. the difference between the two IEEE definitions of impedance) you will never understand what is actually happening in reality inside (or outside of) an RF source. I don't know what else to say.
--
73, Cecil, w5dxp.com

1209. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 13:25:25 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <5ab52aeb-f1d2-45d7-91b9-05cf361965af@m10g2000yqd.googlegroups.com>
Source record: 4760

On 20 mayo, 14:42, Cecil Moore <w5...@hotmail.com> wrote:
> On May 19, 5:22 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Many amateurs built and / or designed their own HF PA (and
> > other circuitry relevant to the hobby). Do you really think that they
> > all considered every component to be a transmission line?
>
> You apparently have not comprehended what I am trying to say. When one
> is designing a piece of equipment, whatever works, works. Please don't
> confuse design/analysis techniques and rule-of-thumb shortcuts with
> the underlying principles supporting the laws of physics. Enumerating
> all the design techniques in the world does not tell us anything about
> what is happening in reality to those photonic fields and waves that
> necessarily must obey the laws of physics.
>
> Even DC impulses travel at the speed of light. Electron drift velocity
> is much, much slower than the speed of light. Everything EM is
> photonic in nature. Photons must obey the laws of physics known to
> exist for photons. There is simply no getting around that fact. All of
> the magical thinking, hand-waving, design/analysis shortcuts, and
> rules-of-thumb in the world are not going to change those facts of
> physics.
>

Hello Cecil,

When one knows the physics well, one knows what to take into account
and what to left out, just to finish the job efficiently. It seems you
don't understand that principle. Is this some lack of understanding
physics?

Do you really believe that when designing an optical detector
(completely off-topic) I don't bother about noise due to quantisation?

> If you do not understand those physical limitations (including. the
> difference between the two IEEE definitions of impedance) you will
> never understand what is actually happening in reality inside (or
> outside of) an RF source. I don't know what else to say.
> --
> 73, Cecil, w5dxp.com

Regarding PA's and IEEE definitions, I don't get paid for my
knowledge (if present?), but just for delivering what has been
agreed.

You introduced photons here; I think you may also introduce thermodynamics of electrons as that may be of more importance at our frequencies. I do not violate agreed laws of physics, but only leave out higher order effects that are insignificant in my opinion.

Wim
PA3DJS
www.tetech.nl

1210. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 14:47:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5903d14b-cf69-422c-8066-77c31b9add28@b42g2000yqi.googlegroups.com>
Source record: 4761

On May 20, 8:25 am, Wimpie <wimabc...@tetech.nl> wrote:
> When one knows the physics well, one knows what to take into account
> and what to left out, just to finish the job efficiently.

Again, just getting the "job" done is completely irrelevant. This was
an unsuccessful quest for knowledge and understanding of the nature of
an RF source - so I will say, "73", Cecil, w5dxp.com

1211. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 15:27:23 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <6a326605-94e1-4b4c-9126-62b7b92788b9@s2g2000yql.googlegroups.com>
Source record: 4762

On 20 mayo, 16:47, Cecil Moore <w5...@hotmail.com> wrote:
> On May 20, 8:25 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > When one knows the physics well, one knows what to take into account
> > and what to left out, just to finish the job efficiently.
>
> Again, just getting the "job" done is completely irrelevant. This was
> an unsuccessful quest for knowledge and understanding of the nature of
> an RF source - so I will say, "73", Cecil, w5dxp.com

Here:
JOB = finding a satisfying answer to the thoughts laid down by
Salmonella.

Understanding the nature of an RF source, can be mastered very
efficiently without: photons, momentum, extensive transmission line
theory, Poynting vector, etc. You may visit VK1OD's website
(www.vk1od.net) for ways how to explain things.

Wim
PA3DJS
www.tetech.nl

1212. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 16:51:26 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c5b70602-3c7f-4b13-b903-4cfa8d9cc197@x6g2000yqj.googlegroups.com>
Source record: 4763

On May 20, 10:27 am, Wimpie <wimabc...@tetech.nl> wrote:
> Understanding the nature of an RF source, can be mastered very
> efficiently without: photons, ...

:-) :-) :-) And that's exactly how we get 3ns delays through foot long
75m loading coils, EM wave energy that stands perfectly still in
standing waves, and reflected waves somehow existing devoid of any
energy at all.

1213. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-20 17:08:23 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <4e20ee62-d4d7-43e6-87af-c698ce4e0b13@m10g2000yqd.googlegroups.com>
Source record: 4764

On May 20, 6:25 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 20 mayo, 14:42, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On May 19, 5:22 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > Many amateurs built and / or designed their own HF PA (and
> > > other circuitry relevant to the hobby). Do you really think that they
> > > all considered every component to be a transmission line?
>
> > You apparently have not comprehended what I am trying to say. When one
> > is designing a piece of equipment, whatever works, works. Please don't
> > confuse design/analysis techniques and rule-of-thumb shortcuts with
> > the underlying principles supporting the laws of physics. Enumerating
> > all the design techniques in the world does not tell us anything about
> > what is happening in reality to those photonic fields and waves that
> > necessarily must obey the laws of physics.
>
> > Even DC impulses travel at the speed of light. Electron drift velocity
> > is much, much slower than the speed of light. Everything EM is
> > photonic in nature. Photons must obey the laws of physics known to
> > exist for photons. There is simply no getting around that fact. All of
> > the magical thinking, hand-waving, design/analysis shortcuts, and
> > rules-of-thumb in the world are not going to change those facts of
> > physics.
>
> Hello Cecil,
>
> When one knows the physics well, one knows what to take into account
> and what to left out, just to finish the job efficiently. It seems you
> don't understand that principle. Is this some lack of understanding
> physics?
>
> Do you really believe that when designing an optical detector
> (completely off-topic) I don't bother about noise due to quantisation?
>
> > If you do not understand those physical limitations (including. the
> > difference between the two IEEE definitions of impedance) you will
> > never understand what is actually happening in reality inside (or
> > outside of) an RF source. I don't know what else to say.
> > --
> > 73, Cecil, w5dxp.com
>

> Regarding PA's and IEEE definitions, I don't get paid for my
> knowledge (if present?), but just for delivering what has been
> agreed.
>
> You introduced photons here; I think you may also introduce
> thermodynamics of electrons as that may be of more importance at our
> frequencies. I do not violate agreed laws of physics, but only leave
> out higher order effects that are insignificant in my opinion.
>
> Wim
> PA3DJSwww.tetech.nl

Beyond just understanding what parts of the physics theory are important in a particular situation, there's the more general concept of compartmentalizing things. The original question was about transmitter output impedance, and to answer that question, you really don't have to get into interminable discussions about what goes on in some arbitrary load. The only things that matter with respect to the load are the voltage, current and phase between them at the output port of the source.

A perfectly valid reason to talk about the load -- what you connect to the source output port -- is how you can configure that load to establish a variety of load conditions so that you can see how the source behaves, and from that, derive the source impedance. In fact, some months past now, Wim and I had some email exchanges about that. The emails were very valuable to me, because they got me thinking about various arrangements of the equipment I have to enable accurate measurements, and brought up points about things that go on _inside_ a typical RF power amplifier that can cause you to measure things inaccurately. For example, an ALC loop with a relatively slow response time could make you think that the amplifier output impedance is quite low if you take measurements more slowly than the response time of the ALC loop. You might even decide that it makes sense to talk about amplifier output impedance as a function of frequency offset relative to the output frequency (or some similar way to talk about the "time response" of the output impedance). It all depends on what you want to _do_ with your output impedance number once you have it, and that's something I don't recall seeing much of in this thread, nor in any of the many previous threads covering the same old ground.

Cheers,
Tom

1214. Re: Transmitter Output Impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-21 10:07:28 UTC
From: walt <walt@w2du.com>
Message-ID: <2a41f2aa-6a5f-4239-b7b8-6656df7ba65e@14g2000yqo.googlegroups.com>
Source record: 4765

On May 20, 1:08 pm, K7ITM <k7...@msn.com> wrote:
> On May 20, 6:25 am, Wimpie <wimabc...@tetech.nl> wrote:
>
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> > On 20 mayo, 14:42, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On May 19, 5:22 pm, Wimpie <wimabc...@tetech.nl> wrote:
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> > > > Many amateurs built and / or designed their own HF PA (and
> > > > other circuitry relevant to the hobby). Do you really think that they
> > > > all considered every component to be a transmission line?
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> > > You apparently have not comprehended what I am trying to say. When one
> > > is designing a piece of equipment, whatever works, works. Please don't
> > > confuse design/analysis techniques and rule-of-thumb shortcuts with
> > > the underlying principles supporting the laws of physics. Enumerating
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> > > is much, much slower than the speed of light. Everything EM is
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> > > the magical thinking, hand-waving, design/analysis shortcuts, and
> > > rules-of-thumb in the world are not going to change those facts of
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> > Hello Cecil,
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> > and what to left out, just to finish the job efficiently. It seems you
> > don't understand that principle. Is this some lack of understanding
> > physics?
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> > Do you really believe that when designing an optical detector
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> > thermodynamics of electrons as that may be of more importance at our
> > frequencies. I do not violate agreed laws of physics, but only leave
> > out higher order effects that are insignificant in my opinion.
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> > PA3DJSwww.tetech.nl
> Beyond just understanding what parts of the physics theory are
> important in a particular situation, there's the more general concept
> of compartmentalizing things. The original question was about
> transmitter output impedance, and to answer that question, you really
> don't have to get into interminable discussions about what goes on in
> some arbitrary load. The only things that matter with respect to the
> load are the voltage, current and phase between them at the output
> port of the source.
> A perfectly valid reason to talk about the load -- what you connect to
> the source output port -- is how you can configure that load to
> establish a variety of load conditions so that you can see how the
> source behaves, and from that, derive the source impedance. In fact,
> some months past now, Wim and I had some email exchanges about that.
> The emails were very valuable to me, because they got me thinking
> about various arrangements of the equipment I have to enable accurate
> measurements, and brought up points about things that go on _inside_ a
> typical RF power amplifier that can cause you to measure things
> inaccurately. For example, an ALC loop with a relatively slow
> response time could make you think that the amplifier output impedance
> is quite low if you take measurements more slowly than the response
> time of the ALC loop. You might even decide that it makes sense to
> talk about amplifier output impedance as a function of frequency
> offset relative to the output frequency (or some similar way to talk
> about the "time response" of the output impedance). It all depends on
> what you want to _do_ with your output impedance number once you have
> it, and that's something I don't recall seeing much of in this thread,
> nor in any of the many previous threads covering the same old ground.
> Cheers,

> Tom

I'm trying to locate the John Smith who signs his posts with 'js'.
Does any one know his call sign? Or perhaps his email address?

Thanks, Walt, W2DU

1215. Quadrature Modulation Tutorial

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 04:18:36 UTC
From: brent <bulegoge@columbus.rr.com>
Message-ID: <5f7f65c0-e543-4fff-bbd1-7b82a871a6d3@v8g2000yqb.googlegroups.com>
Source record: 4766

I have made a tutorial using flash programs that will help you
understand how quadrature modulation and quadrature demodulation
works. It is located here:

http://www.fourier-series.com/IQMod/index.html

I try to show you without getting bogged down in the math. The hope
is that after going through the tutorial that the math will be easier
to understand. (The math for this stuff can be found many places
online)

1216. HOT VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 08:43:54 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <6ba86498-a3d8-439c-8dbe-7b557ec4d5c9@y27g2000prb.googlegroups.com>
Source record: 4767

for hot videos
http://verysexyhotvideos.blogspot.com/

hot lip kiss videos
http://allvideosforyouth.blogspot.com/2010/08/hot-lip-kiss-videos.html

super hot lip kiss
http://allvideosforyouth.blogspot.com/2010/08/super-hot-lip-kiss.html

jobs
http://alljobsaywhere.blogspot.com/

games

GAME 1
http://freeonlingamesplay.blogspot.com/2010/08/game-1.html
GAME 2
http://freeonlingamesplay.blogspot.com/2010/08/game-2.html

mobile

mobile games free download
http://mobileallinforation.blogspot.com/2010/08/mobile-games-free-download.html

mobile ringtones free download
http://mobileallinforation.blogspot.com/2010/08/mobile-ringtones-free-download.html

1217. NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 18:04:10 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <NvCdnfGx9NGHzUTQnZ2dnUVZ_oKdnZ2d@posted.localnet>
Source record: 4768

I'm living in a wooded area and am trying to hit our club repeater reliably. It's cloudy now so I'm and getting a bit of ducting but I have a lot of trees, mostly poplars, in the direct path. I would have a line of sight if not for the trees as I'm up enough in altitude. I can cut the trees, they're mine, but finding the right ones is difficult and i don't want to waste the whole grove.

I go from keying the repeater with no intelligible signal to not being able to hit it. Today I actually have an S meter reading due to the clouds. I am currently using a J-pole and will put up a Yagi soon but wonder if NVIS would work on 2m? I have only seen references to it being applied in HF.

'Captain' Kirk DeHaan
N6SXR

1218. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 18:29:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnitilcc.ssb.gsm@cable.mendelson.com>
Source record: 4769

'Captain' Kirk DeHaan wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I
> have a lot of trees, mostly poplars, in the direct path. I would have a
> line of sight if not for the trees as I'm up enough in altitude. I can
> cut the trees, they're mine, but finding the right ones is difficult and
> i don't want to waste the whole grove.

Wait for winter and use a beam antenna to locate the tree(s) that need to be trimmed.

If a 10 element beam won't "blast" through the trees in the summer, it should get you down to a line of 1 or two trees that need to be cut.

A more radio oriented project would be to put a 6m or 10m input on the repeater. 10m should groundwave over the trees anyway. It's easy enough to test.

10m inputs are IMHO neat, at the top of the sunspot cycle, they give your repeater worldwide input. At that point a 10m output would be good too, but for now, it's not much of a problem.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
It's amazing how many people have no clue what the word "contiguous" means. :-(

1219. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 22:00:21 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <ba06287d-fc22-4afa-ba23-d181a7dc93a4@x1g2000yqb.googlegroups.com>
Source record: 4770

On 22 mayo, 20:04, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I
> have a lot of trees, mostly poplars, in the direct path. I would have a
> line of sight if not for the trees as I'm up enough in altitude. I can
> cut the trees, they're mine, but finding the right ones is difficult and
> i don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it
> being applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

Hello,

The repeater antenna will probably have most of its radiation in the
horizontal plane and 145 MHz is far above the critical frequency, so
your rays will leave earth.

Did you monitor the signal for several time (also winter and rain) to
assess the real influence of the trees? Do you have any possibility to
move the J-pole to another place?

As you can open the repeater now and then, some 10 dB additional gain
will certainly help you to get above the FM-knee (assuming that you
can get the beam at same height as the J-pole. Nice thing is, it will
also improve reception.

With kind regards,

Wim
PA3DJS
www.tetech.nl
remove abc first in case of PM

1220. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 22:11:07 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <a769b9e2-c480-421d-b7e4-3f139931e9b1@f31g2000pri.googlegroups.com>
Source record: 4771

On May 22, 11:04 am, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I
> have a lot of trees, mostly poplars, in the direct path. I would have a
> line of sight if not for the trees as I'm up enough in altitude. I can
> cut the trees, they're mine, but finding the right ones is difficult and
> i don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it
> being applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

I can't see that NVIS has any VHF backers.

Can you exploit Google Maps, satellite view, to establish a precise
line bearing from your antenna to the repeater site? If you need even
more help than you get from your new yagi, then such a line bearing
will help identify your "trouble trees."

I had to do it for a new FD site a few years ago. We're in San Diego
and I wanted to work 2m into Los Angeles. First, I used a protractor
to determine LA was X-degrees True (whatever it was) from us; next, on
a close-up print of the FD site, I plotted that same line bearing from
the antenna site to obvious local landmarks which we then used on the
the ground for pointing the 2m beam.

This is not the only approach, but it got me what I needed.

"Sal"
(KD6VKW)

1221. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 22:55:16 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irc48k$9m2$1@dont-email.me>
Source record: 4772

On 5/22/2011 1:04 PM, 'Captain' Kirk DeHaan wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
> a lot of trees, mostly poplars, in the direct path. I would have a line
> of sight if not for the trees as I'm up enough in altitude. I can cut
> the trees, they're mine, but finding the right ones is difficult and i
> don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it being
> applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

Your yagi may fix your problem completely. Other things to consider:

* Try moving your existing antenna. Even a small movement may cure the problem as you may have cancelling reflections at times. There is almost always a "sweet spot" somewhere in the vicinity.

* Try tilting your antenna to 45 degrees and see if that helps. It might improve reception due to the random polarization of the incoming signal caused by the trees.

Note: do this on a day when the signal is either weak or non-existent. You can always apologize for kerchunking. Or, use your S-meter if you have one.

Cheers & Good Luck,
John
KD5YI

1222. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-22 23:00:09 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irc4hq$b73$1@dont-email.me>
Source record: 4773

On 5/22/2011 1:04 PM, 'Captain' Kirk DeHaan wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
> a lot of trees, mostly poplars, in the direct path. I would have a line
> of sight if not for the trees as I'm up enough in altitude. I can cut
> the trees, they're mine, but finding the right ones is difficult and i
> don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it being
> applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

Addendum: If you can add even a foot or two your antenna height, it may
make a world of difference.

Cheers,
John
KD5YI

1223. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 00:08:38 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnitj9c6.2csv.knock_yourself_out@shell.config.com>
Source record: 4774

On Sun, 22 May 2011 18:29:03 +0000 (UTC), Geoffrey S. Mendelson wrote:

> 10m inputs are IMHO neat, at the top of the sunspot cycle,
> they give your repeater worldwide input.

s/input/QRM/

1224. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 01:05:08 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <4ebjt69a9tvh7l9oeqo43reli9sh8e62dh@4ax.com>
Source record: 4775

On Sun, 22 May 2011 11:04:10 -0700, 'Captain' Kirk DeHaan
<captkirk@ncc-1701a.net> wrote:

>I'm living in a wooded area and am trying to hit our club repeater
>reliably.

I live in a dense mostly redwood forest. Signals vary from full
quieting to not copyable. We also have two co-channel repeaters
sharing the frequency, that also vary radically in strength. I can
often point my 5 element 2m beam in a totally insane direction, and
improve the signal.

>I go from keying the repeater with no intelligible signal to not being
>able to hit it. Today I actually have an S meter reading due to the
>clouds. I am currently using a J-pole and will put up a Yagi soon but
>wonder if NVIS would work on 2m? I have only seen references to it
>being applied in HF.

I just love technical posting with no numbers. It would be helpful if
you would offer a clue as to the distance you're trying to cover, what
manner of impervious to RF dirt is along the line of sight, antenna at
the repeater, power levels, etc. For extra credit, if you disclose
these plus your exact location, the repeater's exact location, and I
will contrive a Radio-Mobile path profile from you to the repeater.
That should give you a clue as to what challenges you are facing.
<http://www.cplus.org/rmw/english1.html>
It will look something like this:
<http://802.11junk.com/jeffl/coverage/RST/RST-KCRA.jpg>

As for a seat-of-the-pants guess as to a solution, I don't like J-pole
antennas. Actually, the antenna is fine, but the way most people
build, tune, and position them, is what I find disgusting. The lack
of any commercially manufactured J-pole antennas (other than the
American Legion J-poles) should offer a clue. Plenty of plans:
<http://www.google.com/search?q=j-pole+antenna&hl=en&prmd=ivns&tbm=isch>
but nothing from a commercial antenna manufactory.

In my never humble opinion, if you can barely talk to the repeater
with a J-pole, then a yagi will offer a substantial improvement. The
problem is how much gain is going to be needed to make it reliable. My
guess(tm) is that the J-pole has a gain of about 2.5dBi (opinions vary
on the gain), and that you'll need about 5dB more gain to get a decent
link. That means you'll need a yagi with about 7.5dBi of gain. That
can be done with a 5 element 2m yagi. Obviously, more gain is better
as is more altitude.

Good luck.
--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1225. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 01:26:45 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <cmcjt61u10o78ke2nq5v3grl7as2cirr1v@4ax.com>
Source record: 4776

On Sun, 22 May 2011 17:55:16 -0500, John KD5YI <sophi.2@invalid.org>
wrote:

>* Try moving your existing antenna. Even a small movement may cure the
>problem as you may have cancelling reflections at times. There is almost
>always a "sweet spot" somewhere in the vicinity.

I beg to differ. I have about 30 years experience in dealing with
propogation through a dense redwood forest (Ben Lomond CA). The trees
in my area are about 120ft high. While moving the antenna around may
temporarily improve the signal quality by reducing frequency selective
fading, multipath, reflections, and just plain bad luck, they do not
tend to remain improved. Trees grow and move around. What works well
now, will probably not work well tomorrow.

I gave up on fixed antenna mounts for my rooftop verticals. (Well, I
have one mounted on a tripod, but that was before I realized what was
happening). Most of my verticals are mounted on 2x12 planks, held
down to the roof with sand bags, concrete blocks, and buckets full of
water. Every few months, I move the antennas around to see if I can
improve the signals to specific repeaters.

>* Try tilting your antenna to 45 degrees and see if that helps. It might
>improve reception due to the random polarization of the incoming signal
>caused by the trees.

I beg to differ again. Tree trunks are mostly water and do an
impressive job of simulating a slot type polarization filter at 2m and
440Mhz frequencies. Leaves and branches will pass RF fairly well, but
not tree trunks. I've played with both polarizations, circular
polarization:
<http://802.11junk.com/jeffl/circular-polarization/>
and some diversity reception. Empirically, signals are about 6dB
stronger going through the trees vertically polarized, than
horizontal. The effect continues up to at least 2.4GHz. Above that,
at 5.7GHz, the signals seem to be going through the holes between the
leaves.

I must admit that I haven't actually tried 45 degrees on 2m or 440Mhz,
but I don't think it will help much. Still, it's an easy thing to
try.

>Note: do this on a day when the signal is either weak or non-existent.
>You can always apologize for kerchunking. Or, use your S-meter if you
>have one.

Do it on a windy day, when the trees are moving around, so you can see
how much it will change.

>Cheers & Good Luck,
>John
>KD5YI

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1226. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 01:56:52 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ircet5vqg1@dont-email.me>
Source record: 4777

On 5/22/2011 8:26 PM, Jeff Liebermann wrote:
> On Sun, 22 May 2011 17:55:16 -0500, John KD5YI<sophi.2@invalid.org>
> wrote:
>
>> * Try moving your existing antenna. Even a small movement may cure the
>> problem as you may have cancelling reflections at times. There is almost
>> always a "sweet spot" somewhere in the vicinity.
>
> I beg to differ. I have about 30 years experience in dealing with
> propogation through a dense redwood forest (Ben Lomond CA). The trees
> in my area are about 120ft high. While moving the antenna around may
> temporarily improve the signal quality by reducing frequency selective
> fading, multipath, reflections, and just plain bad luck, they do not
> tend to remain improved. Trees grow and move around. What works well
> now, will probably not work well tomorrow.

You may be right, Jeff. But he may not have 120ft redwoods around and,
after all, this is a temporary fix until his yagi comes in.

> I gave up on fixed antenna mounts for my rooftop verticals. (Well, I
> have one mounted on a tripod, but that was before I realized what was
> happening). Most of my verticals are mounted on 2x12 planks, held
> down to the roof with sand bags, concrete blocks, and buckets full of
> water. Every few months, I move the antennas around to see if I can
> improve the signals to specific repeaters.

Good for you! Pat yourself on the back.

>> * Try tilting your antenna to 45 degrees and see if that helps. It might
>> improve reception due to the random polarization of the incoming signal
>> caused by the trees.
>
> I beg to differ again. Tree trunks are mostly water and do an
> impressive job of simulating a slot type polarization filter at 2m and
> 440Mhz frequencies. Leaves and branches will pass RF fairly well, but
> not tree trunks. I've played with both polarizations, circular
> polarization:
> <http://802.11junk.com/jeffl/circular-polarization/>
> and some diversity reception. Empirically, signals are about 6dB
> stronger going through the trees vertically polarized, than
> horizontal. The effect continues up to at least 2.4GHz. Above that,
> at 5.7GHz, the signals seem to be going through the holes between the
> leaves.
>
> I must admit that I haven't actually tried 45 degrees on 2m or 440Mhz,

> but I don't think it will help much. Still, it's an easy thing to
> try.

You spent more words debunking the suggestion than admitting that you don't really know whether it could help or not. Good move. And, by the way, I have experience to the contrary at both 144 and 444 MHz. It all depends on the location of the source and the receiver. At 2 meters, some rotation of the antenna can sometimes be helpful. Note that we are not concerned with GHz.

John

1227. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 04:26:26 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <8jljt65rkeu4outjjcbku976ujgb0e4n4j@4ax.com>
Source record: 4778

On Sun, 22 May 2011 20:56:52 -0500, John KD5YI <sophi.2@invalid.org>
wrote:

>You may be right, Jeff. But he may not have 120ft redwoods around and,
>after all, this is a temporary fix until his yagi comes in.

30 years of trying to maintain a stable signal to several distant
repeaters is sufficient to convince me. Trees move and grow, causing
signals to change.

Also, temporary is a rather useless term. In my experience, if it
works, it's permanent.

>Good for you! Pat yourself on the back.

Thank you for the traditional contentious remark.

>You spent more words debunking the suggestion than admitting that you
>don't really know whether it could help or not.

True. I spent more words explaining why I suspect it will not work,
what I expect will happen, and a bit of substantiation. I consider
this a substantial improvement over the traditional one-line
pontification.

>Good move. And, by the
>way, I have experience to the contrary at both 144 and 444 MHz. It all
>depends on the location of the source and the receiver. At 2 meters,
>some rotation of the antenna can sometimes be helpful.

Perhaps it would be helpful if you read what I had written. I said
that rotating the antenna might help temporarily, but that movements
of the trees, tree growth, swaying branches in the wind, and possibly
sources of reflections, will soon negate any temporary benefits. If
the yagi is going to arrive shortly, then tilting the antenna is
probably a useful exercise.

> Note that we are not concerned with GHz.

Topic drift follows:
Since you mentioned GHz, one of the other problems with living in the
deep dark forest is that DBS satellite dish reception is a problem. I
hacked an 8ft diameter hole in the tree canopy by lopping off some
branches at about the 80ft level, through which I point my DirecTV
dish. Every year, the trees grow a little, requiring that I move the
dish around my roof. During the twice annual solar satellite outage:
<http://en.wikipedia.org/wiki/Sun_outage>
Twice a year, I photograph the sunlight shining through the hole and

onto the dish and roof. If there are shadows of branches on the dish,
I move it to a better location.
<http://www.11junk.com/jeffl/pics/DBS/>
Note the shadow at 12 o'clock on the dish.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1228. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 06:51:12 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ird04s$ll5$1@speranza.aioe.org>
Source record: 4779

On 22/05/2011 19:04, 'Captain' Kirk DeHaan wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
> a lot of trees, mostly poplars, in the direct path. I would have a line
> of sight if not for the trees as I'm up enough in altitude. I can cut
> the trees, they're mine, but finding the right ones is difficult and i
> don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it being
> applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

If you have line of sight to the repeater I find it hard to believe that
a few trees will cause you problems at 2m.

NVIS will not work at vhf it is an HF mode. 2m signals go straight
through the atmosphere they are not reflected back down.

You don't say how far away the trees are, but if they *really are* the
cause of you problems, if they are at any distance then they will
probably all have to go to give any sort of Fresnel zone clearance at 2m.

A simple map and compass will give you the bearing to the repeater, but
perhaps you would be better off running a propagation prediction program
such as Radiomobile to see if it is actually the terrain rather than the
trees that are the problem.

73
Jeff

1229. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 15:46:35 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <m0tkt6lkbvpeobr49bflie1nc2utmmnv18@4ax.com>
Source record: 4780

On Sun, 22 May 2011 20:56:52 -0500, John KD5YI <sophi.2@invalid.org>
wrote:

>You may be right, Jeff. But he may not have 120ft redwoods around and,
>after all, this is a temporary fix until his yagi comes in.

Ummm... I don't think the yagi is on order.
<http://www.k7jep.org/node/107>

#Begin speculation();

His area has a variety of repeaters available:
<http://www.k7jep.org/node/107>
I would guess(tm) N7JCT 145.230 on Schweitzer Mtn. Idaho.
<http://www.repeaterbook.com/beta/repeaters/details.php?ID=64&state_id=16>
Plugging the coordinates 48.367500 -116.628326 into Google Earth gives
me a view of the area. It seems to be in the middle of a ski resort,
that has been cleared of most trees and is full of trails. Plenty of
trees both up and down the slope, but not around the probable location
of the repeater. I can't identify the trees from the photo, but my
guess(tm) is Lodgepole Pine at about 60ft. The location is not at the
top of the hill and also has hills shading the view for about 270
degrees. I don't think this is going to be a foliage penetration
issue.

KML file for Google Earth:
<http://802.11junk.com/jeffl/kml/N7JCT possible location.kml>
JPG for those without Google Earth:
<http://802.11junk.com/jeffl/kml/N7JCT possible location.jpg>

Blundering forward, N6SXR is shown as getting his snail mail in
Sandpoint ID a distance of about 7 miles. However, there's quite a
bit of dirt in the way, which will be a problem.
<http://802.11junk.com/jeffl/kml/N6SXR to N6JCT.jpg>

At 7 miles, it should be possible on VHF, even with 450ft of dirt in
the way. My guess(tm) is that there's something wrong with the home
made J-pole, coax, radio, or all the aformentioned.

Again, this is a guess(tm) of both the repeater and it's location and
just might be totally wrong.

#End speculation();

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com

Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1230. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 16:43:50 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ire2s7$1fl$1@dont-email.me>
Source record: 4781

On 5/22/2011 11:26 PM, Jeff Liebermann wrote:
> On Sun, 22 May 2011 20:56:52 -0500, John KD5YI<sophi.2@invalid.org>
> wrote:
>
>> You may be right, Jeff. But he may not have 120ft redwoods around and,
>> after all, this is a temporary fix until his yagi comes in.
>
> 30 years of trying to maintain a stable signal to several distant
> repeaters is sufficient to convince me. Trees move and grow, causing
> signals to change.
>
> Also, temporary is a rather useless term. In my experience, if it
> works, it's permanent.

The OP already said he will be putting up a yagi. Anthing he does
between now and then is temporary.

>> Good for you! Pat yourself on the back.
>
> Thank you for the traditional contentious remark.

You earned it.

>> You spent more words debunking the suggestion than admitting that you
>> don't really know whether it could help or not.
>
> True. I spent more words explaining why I suspect it will not work,
> what I expect will happen, and a bit of substantiation. I consider
> this a substantial improvement over the traditional one-line
> pontification.

I find it more useful to encourage experimentation rather than the opposite.

>> Good move. And, by the
>> way, I have experience to the contrary at both 144 and 444 MHz. It all
>> depends on the location of the source and the receiver. At 2 meters,
>> some rotation of the antenna can sometimes be helpful.
>
> Perhaps it would be helpful if you read what I had written. I said
> that rotating the antenna might help temporarily, but that movements
> of the trees, tree growth, swaying branches in the wind, and possibly
> sources of reflections, will soon negate any temporary benefits. If
> the yagi is going to arrive shortly, then tilting the antenna is
> probably a useful exercise.

I did read what you had written. So?

>> Note that we are not concerned with GHz.
>
> Topic drift follows:
> Since you mentioned GHz,

You are the one who brought it up:

"The effect continues up to at least 2.4GHz. Above that,
at 5.7GHz, the signals seem to be going through the holes between the
leaves."

Perhaps you should read what you wrote.

John

1231. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 16:46:58 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <ire325$3cd$1@dont-email.me>
Source record: 4782

On 5/23/2011 10:46 AM, Jeff Liebermann wrote:
> On Sun, 22 May 2011 20:56:52 -0500, John KD5YI<sophi.2@invalid.org>
> wrote:
>
>> You may be right, Jeff. But he may not have 120ft redwoods around and,
>> after all, this is a temporary fix until his yagi comes in.
>
> Ummm... I don't think the yagi is on order.

Now you are just being argumentative. I never said it was on order. The OP said he was planning to put one up. Therefore, it will most likely come in some day.

I'll bet you are still waiting for your boat to come in.

1232. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 18:02:00 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3h7lt6t7p3okapgpqig5pq8na5i2mnm5jd@4ax.com>
Source record: 4783

On Mon, 23 May 2011 11:46:58 -0500, John KD5YI <sophi.2@invalid.org>
wrote:

>On 5/23/2011 10:46 AM, Jeff Liebermann wrote:
>> On Sun, 22 May 2011 20:56:52 -0500, John KD5YI<sophi.2@invalid.org>
>> wrote:
>>
>>> You may be right, Jeff. But he may not have 120ft redwoods around and,
>>> after all, this is a temporary fix until his yagi comes in.
>>
>> Ummm... I don't think the yagi is on order.

>Now you are just being argumentative.

Not really. Methinks that you're being overly defensive. My litmus
test is "duz it answer the OP's question"? If not, you're wasting
your bytes. By asking for help with the design and contruction of a
yagi, it appears that the author is planning to build his own yagi. I
haven't seen any mention of a structure, pole, or tower, so that will
also need to be constructed. Perhaps also a rotator. Methinks
temporary might be a long time.

>I never said it was on order. The
>OP said he was planning to put one up. Therefore, it will most likely
>come in some day.

At this point, I think were suppose to debate the definition of
temporary. I think I'll pass.

>I'll bet you are still waiting for your boat to come in.

Nope, no waiting. I let the computah do that for me.
<http://www.marinetraffic.com/ais/>
The station I'm slightly involved with is at:
<http://www.marinetraffic.com/ais/stationdetails.aspx?station_id=112>
Watching the VHF propagation effects are fascinating.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1233. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 18:42:29 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ire9ql$gn9$1@news.jpl.nasa.gov>
Source record: 4784

On 5/22/2011 3:11 PM, Sal M. Onella wrote:
> On May 22, 11:04 am, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
> wrote:
>> I'm living in a wooded area and am trying to hit our club repeater
>> reliably. It's cloudy now so I'm and getting a bit of ducting but I
>> have a lot of trees, mostly poplars, in the direct path. I would have a
>> line of sight if not for the trees as I'm up enough in altitude. I can
>> cut the trees, they're mine, but finding the right ones is difficult and
>> i don't want to waste the whole grove.
>>
>> I go from keying the repeater with no intelligible signal to not being
>> able to hit it. Today I actually have an S meter reading due to the
>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>> wonder if NVIS would work on 2m? I have only seen references to it
>> being applied in HF.
>>
>> 'Captain' Kirk DeHaan
>> N6SXR
>
> I can't see that NVIS has any VHF backers.
>
> Can you exploit Google Maps, satellite view, to establish a precise
> line bearing from your antenna to the repeater site? If you need even
> more help than you get from your new yagi, then such a line bearing
> will help identify your "trouble trees."
>
> I had to do it for a new FD site a few years ago. We're in San Diego
> and I wanted to work 2m into Los Angeles. First, I used a protractor
> to determine LA was X-degrees True (whatever it was) from us; next, on
> a close-up print of the FD site, I plotted that same line bearing from
> the antenna site to obvious local landmarks which we then used on the
> the ground for pointing the 2m beam.
>

For this kind of thing "RadioMobile" from VE2DBE is the application of
choice. It will load the SRTM terrain DEMs, etc. and plot out the path
quite nicely.
http://www.cplus.org/rmw/english1.html

But, if you can get in sometimes, but not others, the next question is,
"can you hear it"?

How long is your coax?
If more than 20 ft, are you running a preamp?

Getting 10-15 dB gain over a jpole would be easy with a moderate length Yagi. A M2 2M4 (4 elements, $115) is about 10dBi. A 2M9($240) is about 14dBi

1234. A3S with 40 meter add on kit

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 20:29:57 UTC
From: "D@LS" <helmsman@wowway.com/>
Message-ID: <2jglt6l6s7qrr4sb9iqs98hhiuk54f01v6@4ax.com>
Source record: 4785

Does the 40 meter addition change the 20 meter reflector beam to the center beam and the reflector
beam to 15 meters?

I am assuming the A3S by itself works as the shortest beam is 10 meters the 15 meter beam is the
middle and the 20 meter as the longest?

TIA

1235. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 22:10:46 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <28e41177-ff50-46ed-ba48-1e6c1fb3bc3d@y19g2000yqk.googlegroups.com>
Source record: 4786

On 22 mayo, 20:04, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I
> have a lot of trees, mostly poplars, in the direct path. I would have a
> line of sight if not for the trees as I'm up enough in altitude. I can
> cut the trees, they're mine, but finding the right ones is difficult and
> i don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it
> being applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

Hello,

As you can see from the replies, we are in the speculation phase. If
you would like to receive more specialized feedback, you should
provide us with more details about the path, antenna height, nearby
obstacles, vegetation in between, etc (maybe some pictures).

As we are discussing 2 m wavelength, obstacles that may be optically
in the path may introduce less attenuation then expected, but
obstacles that are outside the optical path can still introduce
attenuation.

At 10m (33ft) from your antenna, the first Fresnel zone is about 9m
(30 ft) wide. In addition, the tree attenuation at these frequencies
is not that high. I think of 0.15 dB/m (I hope somebody can confirm
this). It can be less due to diffraction (bending) of the waves around
and over the trees.

I am almost sure, removing some poplar treetops at 10m from your
antenna or more will not change the situation from marginal to good
(because of the relative low attenuation).

Just to be curious, what type of poplar do you have at your site.

With kind regards,

Wim
PA3DJS
www.tetech.nl

1236. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 22:53:28 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <yJKdnavAv_T2eEfQnZ2dnUVZ_vCdnZ2d@posted.localnet>
Source record: 4787

Jeff Liebermann said the following on 5/23/2011 8:46 AM:
> On Sun, 22 May 2011 20:56:52 -0500, John KD5YI<sophi.2@invalid.org>
> wrote:
>
>> You may be right, Jeff. But he may not have 120ft redwoods around and,
>> after all, this is a temporary fix until his yagi comes in.
>
> Ummm... I don't think the yagi is on order.
> <http://www.k7jep.org/node/107>

This is the repeater I am trying to access, 146.780, K7JEP. I have been playing with Google Earth and getting coordinates so I can go over to my neighbors property and stand on the ridge between our properties and see if I can see the repeater and my house. Hopefully that will help me locate the suspect trees.

>
> #Begin speculation();
>
> His area has a variety of repeaters available:
> <http://www.k7jep.org/node/107>
> I would guess(tm) N7JCT 145.230 on Schweitzer Mtn. Idaho.

This repeater is 59 on signal. I have direct line of site with no obstructions.

> <http://www.repeaterbook.com/beta/repeaters/details.php?ID=64&state_id=16>
> Plugging the coordinates 48.367500 -116.628326 into Google Earth gives
> me a view of the area. It seems to be in the middle of a ski resort,
> that has been cleared of most trees and is full of trails. Plenty of
> trees both up and down the slope, but not around the probable location
> of the repeater. I can't identify the trees from the photo, but my
> guess(tm) is Lodgepole Pine at about 60ft. The location is not at the
> top of the hill and also has hills shading the view for about 270
> degrees. I don't think this is going to be a foliage penetration
> issue.
>
> KML file for Google Earth:
> <http://802.11junk.com/jeffl/kml/N7JCT possible location.kml>
> JPG for those without Google Earth:
> <http://802.11junk.com/jeffl/kml/N7JCT possible location.jpg>
>
> Blundering forward, N6SXR is shown as getting his snail mail in
> Sandpoint ID a distance of about 7 miles. However, there's quite a
> bit of dirt in the way, which will be a problem.

> <http://802.11junk.com/jeffl/kml/N6SXR to N6JCT.jpg>

Addresses here are not all they seem. My physical address is 14 miles
north even though the postal idiots label it in Sandpoint. Approx
location... lat 48.494070 lon -116.447788. You'll see my crazy driveway
and the house. The J-pole sits about 30' above the house. Plenty of
trees in sight.
>
> At 7 miles, it should be possible on VHF, even with 450ft of dirt in
> the way. My guess(tm) is that there's something wrong with the home
> made J-pole, coax, radio, or all the aformentioned.
>
> Again, this is a guess(tm) of both the repeater and it's location and
> just might be totally wrong.
>
> #End speculation();
>
>

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1237. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-23 23:01:49 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <npqdnSDyj-HCekfQnZ2dnUVZ_sWdnZ2d@posted.localnet>
Source record: 4788

Jeff Liebermann said the following on 5/22/2011 6:05 PM:
> On Sun, 22 May 2011 11:04:10 -0700, 'Captain' Kirk DeHaan
> <captkirk@ncc-1701a.net> wrote:
>
>> I'm living in a wooded area and am trying to hit our club repeater
>> reliably.
>
> I live in a dense mostly redwood forest. Signals vary from full
> quieting to not copyable. We also have two co-channel repeaters
> sharing the frequency, that also vary radically in strength. I can
> often point my 5 element 2m beam in a totally insane direction, and
> improve the signal.
>
>> I go from keying the repeater with no intelligible signal to not being
>> able to hit it. Today I actually have an S meter reading due to the
>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>> wonder if NVIS would work on 2m? I have only seen references to it
>> being applied in HF.
>
> I just love technical posting with no numbers. It would be helpful if
> you would offer a clue as to the distance you're trying to cover, what
> manner of impervious to RF dirt is along the line of sight, antenna at
> the repeater, power levels, etc. For extra credit, if you disclose
> these plus your exact location, the repeater's exact location, and I
> will contrive a Radio-Mobile path profile from you to the repeater.
> That should give you a clue as to what challenges you are facing.

The repeater, 146.780, in on Gold Mtn., 48.219713, -116.482883 I do not know the specs of the repeater. I am at 48.494070, -116.447788, at 2300' using an American Legion J-pole. It has worked very well in the past but this is the first time it has been up in 15 years. It hits the 145.230 repeater on Schweitzer 59. I'm running a Kenwood 721 at 25 watts trying to hit the 780 repeater. Schweitzer can be hit at 5 watts no problem.

> <http://www.cplus.org/rmw/english1.html>
> It will look something like this:
> <http://802.11junk.com/jeffl/coverage/RST/RST-KCRA.jpg>
>
> As for a seat-of-the-pants guess as to a solution, I don't like J-pole
> antennas. Actually, the antenna is fine, but the way most people
> build, tune, and position them, is what I find disgusting. The lack
> of any commercially manufactured J-pole antennas (other than the
> American Legion J-poles) should offer a clue. Plenty of plans:
> <http://www.google.com/search?q=j-pole+antenna&hl=en&prmd=ivns&tbm=isch>

> but nothing from a commercial antenna manufactory.
>
> In my never humble opinion, if you can barely talk to the repeater
> with a J-pole, then a yagi will offer a substantial improvement. The
> problem is how much gain is going to be needed to make it reliable. My
> guess(tm) is that the J-pole has a gain of about 2.5dBi (opinions vary
> on the gain), and that you'll need about 5dB more gain to get a decent
> link. That means you'll need a yagi with about 7.5dBi of gain. That
> can be done with a 5 element 2m yagi. Obviously, more gain is better
> as is more altitude.
>
> Good luck.

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1238. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 03:06:50 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irf7cd$78u$1@dont-email.me>
Source record: 4789

On 5/23/2011 5:10 PM, Wimpie wrote:
> On 22 mayo, 20:04, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
> wrote:
>> I'm living in a wooded area and am trying to hit our club repeater
>> reliably. It's cloudy now so I'm and getting a bit of ducting but I
>> have a lot of trees, mostly poplars, in the direct path. I would have a
>> line of sight if not for the trees as I'm up enough in altitude. I can
>> cut the trees, they're mine, but finding the right ones is difficult and
>> i don't want to waste the whole grove.
>>
>> I go from keying the repeater with no intelligible signal to not being
>> able to hit it. Today I actually have an S meter reading due to the
>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>> wonder if NVIS would work on 2m? I have only seen references to it
>> being applied in HF.
>>
>> 'Captain' Kirk DeHaan
>> N6SXR
>
> Hello,
>
> As you can see from the replies, we are in the speculation phase. If
> you would like to receive more specialized feedback, you should
> provide us with more details about the path, antenna height, nearby
> obstacles, vegetation in between, etc (maybe some pictures).
>
> As we are discussing 2 m wavelength, obstacles that may be optically
> in the path may introduce less attenuation then expected, but
> obstacles that are outside the optical path can still introduce
> attenuation.
>
> At 10m (33ft) from your antenna, the first Fresnel zone is about 9m
> (30 ft) wide. In addition, the tree attenuation at these frequencies
> is not that high. I think of 0.15 dB/m (I hope somebody can confirm
> this). It can be less due to diffraction (bending) of the waves around
> and over the trees.
>
> I am almost sure, removing some poplar treetops at 10m from your
> antenna or more will not change the situation from marginal to good
> (because of the relative low attenuation).
>
> Just to be curious, what type of poplar do you have at your site.
>
> With kind regards,

>
> Wim
> PA3DJS
> www.tetech.nl

According to his lat/lon numbers, he is 19 miles from the repeater and its bearing is 185 degrees (ref true north) from him. The repeater is about 2000 feet above him (not including the tower height). He is in a valley that has little altitude variation until his signal reaches the mountain.

This info is available from Google Earth using his numbers.

All of this leads me to think that something else is wrong. I can hit a repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.

I have tons of deciduous trees between me and the repeater but the signal is always solid with no noise on it (I don't have an S-meter) and I have never had a report of noise on my signal until I tried to carry on a conversation with 200 mw output power.

Cheers,
John

1239. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 07:40:49 UTC
From: nm5k@wt.net
Message-ID: <3586d408-f4c3-45a0-9dbb-4a74021d947f@glegroupsg2000goo.googlegroups.com>
Source record: 4790

I'd just put up the yagi, and likely be done
with it. That should get you over the hump well
enough to use the repeater.
You probably don't even need a rotor.
Just aim it at the bad machine, and if the
other one is as good as you say, it will likely
be usable even aimed at the other one.
Or you could use a switch to go back to the
vertical. If the coax run is long, don't use
thin coax like RG-58 or it's ilk. I consider
RG-8/213 types the minimum for anything semi
critical. And you can get better than that.
Doesn't pay to use a gain antenna if you lose
a large chunk of it in feed line losses.

1240. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 13:47:59 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <5e89f0f3-14bd-454c-952a-d6ed01618a84@24g2000yqk.googlegroups.com>
Source record: 4791

On 24 mayo, 05:06, John KD5YI <soph...@invalid.org> wrote:
> On 5/23/2011 5:10 PM, Wimpie wrote:
>
>
>
> > On 22 mayo, 20:04, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
> > wrote:
> >> I'm living in a wooded area and am trying to hit our club repeater
> >> reliably. It's cloudy now so I'm and getting a bit of ducting but I
> >> have a lot of trees, mostly poplars, in the direct path. I would have a
> >> line of sight if not for the trees as I'm up enough in altitude. I can
> >> cut the trees, they're mine, but finding the right ones is difficult and
> >> i don't want to waste the whole grove.
>
> >> I go from keying the repeater with no intelligible signal to not being
> >> able to hit it. Today I actually have an S meter reading due to the
> >> clouds. I am currently using a J-pole and will put up a Yagi soon but
> >> wonder if NVIS would work on 2m? I have only seen references to it
> >> being applied in HF.
>
> >> 'Captain' Kirk DeHaan
> >> N6SXR
>
> > Hello,
>
> > As you can see from the replies, we are in the speculation phase. If
> > you would like to receive more specialized feedback, you should
> > provide us with more details about the path, antenna height, nearby
> > obstacles, vegetation in between, etc (maybe some pictures).
>
> > As we are discussing 2 m wavelength, obstacles that may be optically
> > in the path may introduce less attenuation then expected, but
> > obstacles that are outside the optical path can still introduce
> > attenuation.
>
> > At 10m (33ft) from your antenna, the first Fresnel zone is about 9m
> > (30 ft) wide. In addition, the tree attenuation at these frequencies
> > is not that high. I think of 0.15 dB/m (I hope somebody can confirm
> > this). It can be less due to diffraction (bending) of the waves around
> > and over the trees.
>
> > I am almost sure, removing some poplar treetops at 10m from your
> > antenna or more will not change the situation from marginal to good
> > (because of the relative low attenuation).

>
> > Just to be curious, what type of poplar do you have at your site.
>
> > With kind regards,
>
> > Wim
> > PA3DJS
> >www.tetech.nl
>
> According to his lat/lon numbers, he is 19 miles from the repeater and
> its bearing is 185 degrees (ref true north) from him. The repeater is
> about 2000 feet above him (not including the tower height). He is in a
> valley that has little altitude variation until his signal reaches the
> mountain.
>
> This info is available from Google Earth using his numbers.
>
> All of this leads me to think that something else is wrong. I can hit a
> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>
> I have tons of deciduous trees between me and the repeater but the
> signal is always solid with no noise on it (I don't have an S-meter) and
> I have never had a report of noise on my signal until I tried to carry
> on a conversation with 200 mw output power.
>
> Cheers,
> John

Hello John,

With Google maps, results (distance and bearing) are similar (based on
the data given by Kirk).

If the trees south of his antenna are the problem (I am not
convinced), he needs to cut lots of them. They are about 150m from
his antenna, and at that distance first Fresnel zone width is about
30m (100ft).

It seems flat when looking to the activities in the valley. I hope
somebody can make a path profile and loss simulation to see what is
the real obstacle.

With kind regards,

Wim
PA3DJS

1241. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 15:17:46 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <-uCdnd6NUMSBUUbQnZ2dnUVZ_rqdnZ2d@posted.localnet>
Source record: 4792

Wimpie said the following on 5/24/2011 6:47 AM:
> On 24 mayo, 05:06, John KD5YI<soph...@invalid.org> wrote:
>> On 5/23/2011 5:10 PM, Wimpie wrote:
>>
>>
>>
>>> On 22 mayo, 20:04, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
>>> wrote:
>>>> I'm living in a wooded area and am trying to hit our club repeater
>>>> reliably. It's cloudy now so I'm and getting a bit of ducting but I
>>>> have a lot of trees, mostly poplars, in the direct path. I would have a
>>>> line of sight if not for the trees as I'm up enough in altitude. I can
>>>> cut the trees, they're mine, but finding the right ones is difficult and
>>>> i don't want to waste the whole grove.
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>>>> I go from keying the repeater with no intelligible signal to not being
>>>> able to hit it. Today I actually have an S meter reading due to the
>>>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>>>> wonder if NVIS would work on 2m? I have only seen references to it
>>>> being applied in HF.
>>
>>>> 'Captain' Kirk DeHaan
>>>> N6SXR
>>
>>> Hello,
>>
>>> As you can see from the replies, we are in the speculation phase. If
>>> you would like to receive more specialized feedback, you should
>>> provide us with more details about the path, antenna height, nearby
>>> obstacles, vegetation in between, etc (maybe some pictures).
>>
>>> As we are discussing 2 m wavelength, obstacles that may be optically
>>> in the path may introduce less attenuation then expected, but
>>> obstacles that are outside the optical path can still introduce
>>> attenuation.
>>
>>> At 10m (33ft) from your antenna, the first Fresnel zone is about 9m
>>> (30 ft) wide. In addition, the tree attenuation at these frequencies
>>> is not that high. I think of 0.15 dB/m (I hope somebody can confirm
>>> this). It can be less due to diffraction (bending) of the waves around
>>> and over the trees.
>>
>>> I am almost sure, removing some poplar treetops at 10m from your
>>> antenna or more will not change the situation from marginal to good

>>> (because of the relative low attenuation).
>>
>>> Just to be curious, what type of poplar do you have at your site.
>>
>>> With kind regards,
>>
>>> Wim
>>> PA3DJS
>>> www.tetech.nl
>>
>> According to his lat/lon numbers, he is 19 miles from the repeater and
>> its bearing is 185 degrees (ref true north) from him. The repeater is
>> about 2000 feet above him (not including the tower height). He is in a
>> valley that has little altitude variation until his signal reaches the
>> mountain.
>>
>> This info is available from Google Earth using his numbers.
>>
>> All of this leads me to think that something else is wrong. I can hit a
>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>>
>> I have tons of deciduous trees between me and the repeater but the
>> signal is always solid with no noise on it (I don't have an S-meter) and
>> I have never had a report of noise on my signal until I tried to carry
>> on a conversation with 200 mw output power.
>>
>> Cheers,
>> John
>
> Hello John,
>
> With Google maps, results (distance and bearing) are similar (based on
> the data given by Kirk).
>
> If the trees south of his antenna are the problem (I am not
> convinced), he needs to cut lots of them. They are about 150m from
> his antenna, and at that distance first Fresnel zone width is about
> 30m (100ft).

I was up on my neighbors property along the path to the repeater and the
quantity of trees is a lot more than I had remembered. Since this is
tree growing/logging country it is not feasible for me to be cutting
huge amounts of trees. The deciduous can go but there are to many
conifers on both properties to cut just for signal. You are correct on
the distance to the grove and it is the, I believe, the only impediment.
>
> It seems flat when looking to the activities in the valley. I hope
> somebody can make a path profile and loss simulation to see what is
> the real obstacle.

I download the Radio Mobile SW that someone suggested but am still
trying to figure out how to use it.
>
> With kind regards,
>
>
> Wim
> PA3DJS

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1242. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 15:24:09 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dnZ2d@posted.localnet>
Source record: 4793

John KD5YI said the following on 5/23/2011 8:06 PM:
> On 5/23/2011 5:10 PM, Wimpie wrote:
>> On 22 mayo, 20:04, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
>> wrote:
>>> I'm living in a wooded area and am trying to hit our club repeater
>>> reliably. It's cloudy now so I'm and getting a bit of ducting but I
>>> have a lot of trees, mostly poplars, in the direct path. I would have a
>>> line of sight if not for the trees as I'm up enough in altitude. I can
>>> cut the trees, they're mine, but finding the right ones is difficult and
>>> i don't want to waste the whole grove.
>>>
>>> I go from keying the repeater with no intelligible signal to not being
>>> able to hit it. Today I actually have an S meter reading due to the
>>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>>> wonder if NVIS would work on 2m? I have only seen references to it
>>> being applied in HF.
>>>
>>> 'Captain' Kirk DeHaan
>>> N6SXR
>>
>> Hello,
>>
>> As you can see from the replies, we are in the speculation phase. If
>> you would like to receive more specialized feedback, you should
>> provide us with more details about the path, antenna height, nearby
>> obstacles, vegetation in between, etc (maybe some pictures).
>>
>> As we are discussing 2 m wavelength, obstacles that may be optically
>> in the path may introduce less attenuation then expected, but
>> obstacles that are outside the optical path can still introduce
>> attenuation.
>>
>> At 10m (33ft) from your antenna, the first Fresnel zone is about 9m
>> (30 ft) wide. In addition, the tree attenuation at these frequencies
>> is not that high. I think of 0.15 dB/m (I hope somebody can confirm
>> this). It can be less due to diffraction (bending) of the waves around
>> and over the trees.
>>
>> I am almost sure, removing some poplar treetops at 10m from your
>> antenna or more will not change the situation from marginal to good
>> (because of the relative low attenuation).
>>
>> Just to be curious, what type of poplar do you have at your site.
>>

>> With kind regards,
>>
>> Wim
>> PA3DJS
>> www.tetech.nl
>
>
> According to his lat/lon numbers, he is 19 miles from the repeater and
> its bearing is 185 degrees (ref true north) from him. The repeater is
> about 2000 feet above him (not including the tower height). He is in a
> valley that has little altitude variation until his signal reaches the
> mountain.
>
> This info is available from Google Earth using his numbers.
>
> All of this leads me to think that something else is wrong. I can hit a
> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.

There may well be something wrong with the antenna. I don't have an SWR meter handy but will try and borrow one from a club member. The J-pole was beat around quite a bit over the years but since the radio has a limiting circuit if the SWR is too far out of whack I am assuming it is fairly close. It will transmit of full power. I'm using 75' of professionally assembled RG8X which is required to get from the radio to the antenna.

>
> I have tons of deciduous trees between me and the repeater but the
> signal is always solid with no noise on it (I don't have an S-meter) and
> I have never had a report of noise on my signal until I tried to carry
> on a conversation with 200 mw output power.

Not to make light, one of these poplars is tons in itself. They are easily 70' tall and 24" diameter. I truly appreciate all the help from everyone.

>
> Cheers,
> John

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1243. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 15:47:34 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <rkint61hoin0lqf3ethqdfi561b8tftl6g@4ax.com>
Source record: 4794

On Mon, 23 May 2011 15:53:28 -0700, 'Captain' Kirk DeHaan
<captkirk@ncc-1701a.net> wrote:

>You'll see my crazy driveway
>and the house. The J-pole sits about 30' above the house. Plenty of
>trees in sight.

That's quite a drive. Thanks for the numbers. I've ignored the
antenna heights as they don't seem to make much difference. 31 km (19
mile) path length. The K7JEP repeater seems to be on a wide flat part
of a hilltop. Pointing downward, it may not clear the edge of the
flat part if the antenna isn't high enough. Difficult to tell without
photos or numbers. Not much you can do at your end to fix that. Any
chance you have a photo of the K7JEP repeater antenna location?

Otherwise, the path is line-o-sight, and should be quite usable with
your American Legion J-Pole. Of course, a yagi would be better, but I
think tinkering with your J-pole, coax, connectors, and radio may be a
better solution (assuming the repeater is working properly).

KML file:
<http://802.11junk.com/jeffl/kml/N6SXR-to-K7JEP.kml>

JPG image:
<http://802.11junk.com/jeffl/kml/N6SXR-to-K7JEP.jpg>

Hint: In Google Earth, enable 3D. When you have the KML file
displayed, stomp on the MIDDLE mouse button to tilt the image.
--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1244. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 15:52:03 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <irknt6hus258ju85c0i8acrftuqdr8pmgq@4ax.com>
Source record: 4795

On Tue, 24 May 2011 08:17:46 -0700, 'Captain' Kirk DeHaan
<captkirk@ncc-1701a.net> wrote:

>I download the Radio Mobile SW that someone suggested but am still
>trying to figure out how to use it.

Radio-Mobile will give you the expected coverage area and signal
strengths from your location. However, it's a tricky program to
master and will require some patience and practice. There are
tutorials. For example:
<http://www.pizon.org/radio-mobile-tutorial/index.html>
<http://www.bcwireless.net/moin.cgi/RadioMobile/Tutorial>
<http://radiomobile.pe1mew.nl/>
etc.
Also check YouTube for various video tutorials.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1245. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 15:56:41 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <r1lnt6pj93tleal7ivnpifi1pdqm5ad3v0@4ax.com>
Source record: 4796

On Tue, 24 May 2011 08:24:09 -0700, 'Captain' Kirk DeHaan
<captkirk@ncc-1701a.net> wrote:

>There may well be something wrong with the antenna. I don't have an SWR
>meter handy but will try and borrow one from a club member. The J-pole
>was beat around quite a bit over the years but since the radio has a
>limiting circuit if the SWR is too far out of whack I am assuming it is
>fairly close. It will transmit of full power.

The American Legion J-pole is rather critical, especially the dual
band flavor. The vertical section of electrical wire between the coax
connector and the part where it's wound around the driven element is
the tuning adjustment. Move it slightly and it's mistuned. You'll
need a VSWR meter to re-tune it.

>I'm using 75' of
>professionally assembled RG8X which is required to get from the radio to
>the antenna.

RX-8x is 4.5dB loss per 100ft. Half your power is being lost in the
coax.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1246. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 21:23:20 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <Y62dnR8cPO1RvEHQnZ2dnUVZ_t2dnZ2d@posted.localnet>
Source record: 4797

Jeff Liebermann said the following on 5/24/2011 8:47 AM:
> On Mon, 23 May 2011 15:53:28 -0700, 'Captain' Kirk DeHaan
> <captkirk@ncc-1701a.net> wrote:
>
>> You'll see my crazy driveway
>> and the house. The J-pole sits about 30' above the house. Plenty of
>> trees in sight.
>
> That's quite a drive. Thanks for the numbers. I've ignored the
> antenna heights as they don't seem to make much difference. 31 km (19
> mile) path length. The K7JEP repeater seems to be on a wide flat part
> of a hilltop. Pointing downward, it may not clear the edge of the
> flat part if the antenna isn't high enough. Difficult to tell without
> photos or numbers. Not much you can do at your end to fix that. Any
> chance you have a photo of the K7JEP repeater antenna location?
>
> Otherwise, the path is line-o-sight, and should be quite usable with
> your American Legion J-Pole. Of course, a yagi would be better, but I
> think tinkering with your J-pole, coax, connectors, and radio may be a
> better solution (assuming the repeater is working properly).

I have heard from a club member that the repeater is weak and it has
been overrun by one on the coast! He is much farther away than me and
in a much less desirable location, signal wise.

I have been out of HAM radio for about 15 years so am having to relearn
quite a lot. Had a brain injury, doh!, so lot's of what I knew went bye
bye. Lot's of holes in the memory. I will find out about the repeater
during the next club meeting. Specs and all.

>
> KML file:
> <http://802.11junk.com/jeffl/kml/N6SXR-to-K7JEP.kml>
>
> JPG image:
> <http://802.11junk.com/jeffl/kml/N6SXR-to-K7JEP.jpg>
>
> Hint: In Google Earth, enable 3D. When you have the KML file
> displayed, stomp on the MIDDLE mouse button to tilt the image.

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1247. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 21:43:17 UTC
From: dplatt@radagast.org
Message-ID: <lclta8-29o.ln1@radagast.org>
Source record: 4799

In article <irf7cd$78u$1@dont-email.me>,
John KD5YI <sophi.2@invalid.org> wrote:

>All of this leads me to think that something else is wrong. I can hit a
>repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.

I wonder whether he might have his antenna sitting in a particularly
deep multipath cancellation null.

I help run a repeater located about 4 miles from my house, which is up
at about 80' AGL on a hospital roof. There's an office building
blocking direct line-of-sight path from my house to the repeater.

For a few weeks, several years ago, I found myself unable to
successfully open up the repeater using my base station, even while
transmitting 50 watts of power from a good-quality commercial 2-meter
antenna located a few feet above my roofline. Had no trouble with any
other repeater in the area, or with simplex operations. The
feedline/antenna system measured out just fine... no reflected power
worth speaking about.

I moved the antenna mast about 2' to one side, and was then able to
open up the repeater full-quieting with 100 milliwatts.

All I can figure is that there must have been a *very* deep multipath
cancellation effect playing out... maybe interference between a
edge-diffraction path involving the office building, and reflections
from nearby trees. Moving the antenna a fraction of a wavelength
changed the path lengths enough to eliminate the cancellation (or
reduce it by a large factor).

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1248. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 21:54:01 UTC
From: dplatt@radagast.org
Message-ID: <p0mta8-29o.ln1@radagast.org>
Source record: 4798

In article <-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dnZ2d@posted.localnet>,
'Captain' Kirk DeHaan <captkirk@ncc-1701a.net> wrote:

>> All of this leads me to think that something else is wrong. I can hit a
>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>
>There may well be something wrong with the antenna. I don't have an SWR
>meter handy but will try and borrow one from a club member. The J-pole
>was beat around quite a bit over the years but since the radio has a
>limiting circuit if the SWR is too far out of whack I am assuming it is
>fairly close. It will transmit of full power.

One of the things to know about the American Legion J-pole (and most vaguely-similar J-poles) is that it has no feedline or mount-point isolation to speak of. The outside of the feedline coax, and any pipe or tower or other metal to which you strap the antenna, become part of the antenna's ground system, and can radiate a significant amount of RF. This can interact with the RF coming from the main radiator, and significantly alter the antenna's pattern... it no longer behaves like an idealized half-wave vertical radiator.

In most installations this doesn't seem to matter all that much... but it's possible that you've got some sort of weird interaction (feedline emissions, reflections from the ground or nearby metal, etc.) which is creating a null in the antenna's pattern in just the wrong direction. If this is an issue (not all that likely but perhaps possible) you could insulate the antenna from the mounting mask, and install a choke (e.g. a few ferrite cores) on the feedline just below the antenna.

Also, the American Legion J-poles are subject to a couple of forms of mechanical/electrical failure after a few years. The plastic insulator which spaces apart the radiator and matching arm can degrade (UV from sunlight is the main offendor, I believe) and crack, allowing the two arms to change spacing. More subtly, the connection between the two arms and the metal base can degrade... it's aluminum-to-aluminum using a set-screw, and the connection can loosen and corrode.

It might be worth checking the spacer (replace if necessary), and checking and tuning up the set-screw connections (squirt with Liquid Wrench if necessary, loosen and remove, take out the rods, clean the ends of the rods and the mounting holes in the place, dab with NoAlOx or a similar corrosion-blocker, reassemble and tighten).

> I'm using 75' of
>professionally assembled RG8X which is required to get from the radio to

>the antenna.

That's probably costing you about half of your power (assuming a
typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
better than this.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1249. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 21:57:39 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irh9kn$ve2$1@dont-email.me>
Source record: 4800

On 5/24/2011 4:23 PM, 'Captain' Kirk DeHaan wrote:

> I have heard from a club member that the repeater is weak and it has
> been overrun by one on the coast! He is much farther away than me and in
> a much less desirable location, signal wise.
>
> I have been out of HAM radio for about 15 years so am having to relearn
> quite a lot. Had a brain injury, doh!, so lot's of what I knew went bye
> bye. Lot's of holes in the memory. I will find out about the repeater
> during the next club meeting. Specs and all.

Sounds great, Kirk. I'll bet they will fix you up right away.

Hang in there.

Cheers,
John

1250. looking for a 2 meter 70 cm beam

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 22:31:54 UTC
From: petem001@gmail.com
Message-ID: <irhbl5cqv1@dont-email.me>
Source record: 4701

Anyone know where I can find a dual band 2 meter 70 cm beam ?

Trying to build a beam for both band and I want to put it on 90 degre rotor
to make it work in horizontal and vertical so I would need only one coax
line for 2 m v/h and 70 cm v/h

thanks..

1251. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 22:36:31 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <a1cot6tqa8986gvtenvnoqiuu4tbbm6asc@4ax.com>
Source record: 4702

On Tue, 24 May 2011 14:23:20 -0700, 'Captain' Kirk DeHaan
<captkirk@ncc-1701a.net> wrote:

>I have heard from a club member that the repeater is weak and it has
>been overrun by one on the coast! He is much farther away than me and
>in a much less desirable location, signal wise.

Ok. Might be a sick repeater. That would explain quite a bit.

>I have been out of HAM radio for about 15 years so am having to relearn
>quite a lot. Had a brain injury, doh!, so lot's of what I knew went bye
>bye. Lot's of holes in the memory.

I have a slight idea of what's that's like. I had a triple bypass
operation in 2002. They're not sure what happened but the result is
that my memory around that time is like Swiss cheese. It's a mix of
things that happened that I don't remember, and things I remember that
never happened. Fortunately, things got better after about a year for
me. Hopefully, you'll do as well. Also, my neighbor had a brain
tumor removed. She's fine, but has the same scrambled memory problem.

I gave up ham radio from about 1975 to 1992. I was working designing
radios and working in commercial 2way. The last thing I needed was
ham radio after hours. Welcome back.

>I will find out about the repeater
>during the next club meeting. Specs and all.

Good idea. I assumed that you had already done that. If the specs on
the repeater (tx power, feed line losses, antenna gain, antenna
height, lat-long) were known on the repeater, I can calculate the
signal strength you should expect at your end.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1252. Nested hentenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 22:45:51 UTC
From: me9@privacy.net
Message-ID: <51D89DFD76%brian13434@lycos.co.uk>
Source record: 4703

Anyone any experience of nesting hentennas for multi band use? I'm thinking of a 6m hentenna inside a 10m one.

My first thoughts are that it should work, like nested cubical quads.

--
BD
Change lycos to yahoo to reply

1253. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 23:03:38 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irhdgd$n7j$1@dont-email.me>
Source record: 4704

On 5/24/2011 4:43 PM, Dave Platt wrote:
> In article<irf7cd$78u$1@dont-email.me>,
> John KD5YI<sophi.2@invalid.org> wrote:
>
>> All of this leads me to think that something else is wrong. I can hit a
>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>
> I wonder whether he might have his antenna sitting in a particularly
> deep multipath cancellation null.
>
> I help run a repeater located about 4 miles from my house, which is up
> at about 80' AGL on a hospital roof. There's an office building
> blocking direct line-of-sight path from my house to the repeater.
>
> For a few weeks, several years ago, I found myself unable to
> successfully open up the repeater using my base station, even while
> transmitting 50 watts of power from a good-quality commercial 2-meter
> antenna located a few feet above my roofline. Had no trouble with any
> other repeater in the area, or with simplex operations. The
> feedline/antenna system measured out just fine... no reflected power
> worth speaking about.
>
> I moved the antenna mast about 2' to one side, and was then able to
> open up the repeater full-quieting with 100 milliwatts.
>
> All I can figure is that there must have been a *very* deep multipath
> cancellation effect playing out... maybe interference between a
> edge-diffraction path involving the office building, and reflections
> from nearby trees. Moving the antenna a fraction of a wavelength
> changed the path lengths enough to eliminate the cancellation (or
> reduce it by a large factor).
>

That is always a possibility, Dave. I have seen similar situations and I
am not surprised at your findings. It is one reason I suggested moving
his antenna, even slightly.

His latest post may also indicate that there is a repeater problem. So,
I hope he posts his findings after his meeting with his club.

Cheers,
John

1254. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 23:11:20 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <irhduogcr1@news.jpl.nasa.gov>
Source record: 4706

On 5/24/2011 2:54 PM, Dave Platt wrote:

>
>> I'm using 75' of
>> professionally assembled RG8X which is required to get from the radio to
>> the antenna.
>
> That's probably costing you about half of your power (assuming a
> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
> better than this.
>

The results are all over the map. A piece of Cable TV cable might not be a bad choice, if you can scrounge one. The 75 ohms probably isn't a big deal.

At 144 MHz, bigger in diameter almost always beats fancier dielectric (that is, the .405 inch RG-8, RG-213 flavors will usually beat any of the quarter inch cables (RG-6, RG-8X, LMR240, etc.) because dielectric losses aren't a big driver.. it's the IR loss in the center conductor. RG-11, for instance, has less than 1.2dB loss for a matched 75 foot line, and for the 1.5:1 mismatch, the loss only goes up 0.1 dB. (RG-11 type coax has a solid dielectric, and is pretty darn rugged stuff)

75 feet, at 144 MHz
LMR240 - 2.2 dB
Belden 8215 (RG-6A) - 2.5 dB
Belden 9258 (RG-8x) - 3.0 dB
Tandy RG-8x - 3.1 dB
Belden 8267 (RG-213) - 1.9 dB
Wireman CQ110 (RG-213) - 1.6 dB
Belden 8237 (RG-8) - 1.7 dB
belden 8213 (RG-11) = 1.2dB

1255. Re: looking for a 2 meter 70 cm beam

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 23:21:01 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <r4fot6hospar7tk5ocgdl00552tn2b346v@4ax.com>
Source record: 4705

On Tue, 24 May 2011 18:31:54 -0400, <petem001@gmail.com> wrote:

>Anyone know where I can find a dual band 2 meter 70 cm beam ?

<http://www.hy-gain.com/Product.php?productid=DB-2345>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1256. Re: looking for a 2 meter 70 cm beam

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-24 23:26:31 UTC
From: dplatt@radagast.org
Message-ID: <7erta8-r16.ln1@radagast.org>
Source record: 4707

>Anyone know where I can find a dual band 2 meter 70 cm beam ?
>
>Trying to build a beam for both band and I want to put it on 90 degre rotor
>to make it work in horizontal and vertical so I would need only one coax
>line for 2 m v/h and 70 cm v/h

Elk makes a 2m/70cm dualband log-periodic beam.

http://www.elkantennas.com/

I keep one in my ARES/RACES go-kit setup... portable, easy to set up
and tear down, very useful for field deployments out in fringe-
reception areas.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1257. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 00:17:45 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irhhrc$ee1$1@dont-email.me>
Source record: 4708

On 5/24/2011 6:11 PM, Jim Lux wrote:
> On 5/24/2011 2:54 PM, Dave Platt wrote:
>
>>
>>> I'm using 75' of
>>> professionally assembled RG8X which is required to get from the radio to
>>> the antenna.
>>
>> That's probably costing you about half of your power (assuming a
>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
>> better than this.
>>
>
> The results are all over the map. A piece of Cable TV cable might not be
> a bad choice, if you can scrounge one. The 75 ohms probably isn't a big
> deal.
>
> At 144 MHz, bigger in diameter almost always beats fancier dielectric
> (that is, the .405 inch RG-8, RG-213 flavors will usually beat any of
> the quarter inch cables (RG-6, RG-8X, LMR240, etc.) because dielectric
> losses aren't a big driver.. it's the IR loss in the center conductor.
> RG-11, for instance, has less than 1.2dB loss for a matched 75 foot
> line, and for the 1.5:1 mismatch, the loss only goes up 0.1 dB. (RG-11
> type coax has a solid dielectric, and is pretty darn rugged stuff)
>
> 75 feet, at 144 MHz
> LMR240 - 2.2 dB
> Belden 8215 (RG-6A) - 2.5 dB
> Belden 9258 (RG-8x) - 3.0 dB
> Tandy RG-8x - 3.1 dB
> Belden 8267 (RG-213) - 1.9 dB
> Wireman CQ110 (RG-213) - 1.6 dB
> Belden 8237 (RG-8) - 1.7 dB
> belden 8213 (RG-11) = 1.2dB
>

Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240
has 9.7dB of loss at 146 MHz.

I won't go through your entire list.

Check out http://www.vk1od.net/calc/tl/tllc.php

Cheers,
John

1258. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 01:08:25 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <isednWf5yJEUy0HQnZ2dnUVZ_sydnZ2d@earthlink.com>
Source record: 4709

"John KD5YI" <sophi.2@invalid.org> wrote in message
news:irhhrc$ee1$1@dont-email.me...
>>
>> 75 feet, at 144 MHz
>> LMR240 - 2.2 dB
>> Belden 8215 (RG-6A) - 2.5 dB
>> Belden 9258 (RG-8x) - 3.0 dB
>> Tandy RG-8x - 3.1 dB
>> Belden 8267 (RG-213) - 1.9 dB
>> Wireman CQ110 (RG-213) - 1.6 dB
>> Belden 8237 (RG-8) - 1.7 dB
>> belden 8213 (RG-11) = 1.2dB
>>
>
> Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240 has
> 9.7dB of loss at 146 MHz.
>
> I won't go through your entire list.
>
> Check out http://www.vk1od.net/calc/tl/tllc.php
>
> Cheers,
> John
>

John you need to see where you went wrong. The numbers Jim listed are either correct or very close. I did not bother to do the calculations, but looking at a 100 foot chart, the numbers are very close and no where near the numbers you have.

I thought you may have looked at the web page and missed it defauls to meters, but that does not seem to be the case to me.

1259. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 01:21:12 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irhlibvcc1@dont-email.me>
Source record: 4710

On 5/24/2011 8:08 PM, Ralph Mowery wrote:
> "John KD5YI"<sophi.2@invalid.org> wrote in message
> news:irhhrc$ee1$1@dont-email.me...
>>>
>>> 75 feet, at 144 MHz
>>> LMR240 - 2.2 dB
>>> Belden 8215 (RG-6A) - 2.5 dB
>>> Belden 9258 (RG-8x) - 3.0 dB
>>> Tandy RG-8x - 3.1 dB
>>> Belden 8267 (RG-213) - 1.9 dB
>>> Wireman CQ110 (RG-213) - 1.6 dB
>>> Belden 8237 (RG-8) - 1.7 dB
>>> belden 8213 (RG-11) = 1.2dB
>>>
>>
>> Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240 has
>> 9.7dB of loss at 146 MHz.
>>
>> I won't go through your entire list.
>>
>> Check out http://www.vk1od.net/calc/tl/tllc.php
>>
>> Cheers,
>> John
>>
>
> John you need to see where you went wrong. The numbers Jim listed are
> either correct or very close. I did not bother to do the calculations, but
> looking at a 100 foot chart, the numbers are very close and no where near
> the numbers you have.
>
> I thought you may have looked at the web page and missed it defauls to
> meters, but that does not seem to be the case to me.

You are correct, Ralph, and I apologize to the group for my error. I did
indeed put meters rather than feet into the calculator.

Again, my apologies, and thanks, Ralph, for correcting me.

Cheers,
John

1260. FS Heath HM-2102 VHF SWR meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 03:39:19 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <irhtl6$8lv$1@dont-email.me>
Source record: 4711

I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Excellent condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

1261. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 04:05:12 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <eZmdnXse9pBn4kHQnZ2dnUVZ_vidnZ2d@posted.localnet>
Source record: 4712

Dave Platt said the following on 5/24/2011 2:54 PM:
> In article<-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dnZ2d@posted.localnet>,
> 'Captain' Kirk DeHaan<captkirk@ncc-1701a.net> wrote:
>
>>> All of this leads me to think that something else is wrong. I can hit a
>>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>>
>> There may well be something wrong with the antenna. I don't have an SWR
>> meter handy but will try and borrow one from a club member. The J-pole
>> was beat around quite a bit over the years but since the radio has a
>> limiting circuit if the SWR is too far out of whack I am assuming it is
>> fairly close. It will transmit of full power.
>
> One of the things to know about the American Legion J-pole (and most
> vaguely-similar J-poles) is that it has no feedline or mount-point
> isolation to speak of. The outside of the feedline coax, and any pipe
> or tower or other metal to which you strap the antenna, become part of
> the antenna's ground system, and can radiate a significant amount of
> RF. This can interact with the RF coming from the main radiator, and
> significantly alter the antenna's pattern... it no longer behaves like
> an idealized half-wave vertical radiator.
>
> In most installations this doesn't seem to matter all that much... but
> it's possible that you've got some sort of weird interaction (feedline
> emissions, reflections from the ground or nearby metal, etc.) which is
> creating a null in the antenna's pattern in just the wrong direction.
> If this is an issue (not all that likely but perhaps possible) you
> could insulate the antenna from the mounting mask, and install a choke
> (e.g. a few ferrite cores) on the feedline just below the antenna.

It is mounted on an angle bracket about 12" from a mast 20' above my
metal roof. The mast is isolated from roof but is not yet grounded.

>
> Also, the American Legion J-poles are subject to a couple of forms of
> mechanical/electrical failure after a few years. The plastic
> insulator which spaces apart the radiator and matching arm can degrade
> (UV from sunlight is the main offendor, I believe) and crack, allowing
> the two arms to change spacing. More subtly, the connection between
> the two arms and the metal base can degrade... it's aluminum-to-
> aluminum using a set-screw, and the connection can loosen and corrode.

My spacer basically disintegrated. I replaced it with 1/2" pvc pipe. I
measured the spacing at the base and got it as close as possible.

I will check out the other connections. There is obvious aluminum oxide
on the assembly so it is very possible it is down between the parts.

I'll get up on my steep metal roof after the rains stop. :-)

>
> It might be worth checking the spacer (replace if necessary), and
> checking and tuning up the set-screw connections (squirt with Liquid
> Wrench if necessary, loosen and remove, take out the rods, clean the
> ends of the rods and the mounting holes in the place, dab with NoAlOx
> or a similar corrosion-blocker, reassemble and tighten).
>
>> I'm using 75' of
>> professionally assembled RG8X which is required to get from the radio to
>> the antenna.
>
> That's probably costing you about half of your power (assuming a
> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
> better than this.
>

Thanks for the suggestions.

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1262. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 20:51:09 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <irjq3t$8ii$1@news.jpl.nasa.gov>
Source record: 4713

```
On 5/24/2011 5:17 PM, John KD5YI wrote:
> On 5/24/2011 6:11 PM, Jim Lux wrote:
>> On 5/24/2011 2:54 PM, Dave Platt wrote:
>>
>>>
>>>> I'm using 75' of
>>>> professionally assembled RG8X which is required to get from the
>>>> radio to
>>>> the antenna.
>>>
>>> That's probably costing you about half of your power (assuming a
>>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
>>> better than this.
>>>
>>
>> The results are all over the map. A piece of Cable TV cable might not be
>> a bad choice, if you can scrounge one. The 75 ohms probably isn't a big
>> deal.
>>
>> At 144 MHz, bigger in diameter almost always beats fancier dielectric
>> (that is, the .405 inch RG-8, RG-213 flavors will usually beat any of
>> the quarter inch cables (RG-6, RG-8X, LMR240, etc.) because dielectric
>> losses aren't a big driver.. it's the IR loss in the center conductor.
>> RG-11, for instance, has less than 1.2dB loss for a matched 75 foot
>> line, and for the 1.5:1 mismatch, the loss only goes up 0.1 dB. (RG-11
>> type coax has a solid dielectric, and is pretty darn rugged stuff)
>>
>> 75 feet, at 144 MHz
>> LMR240 - 2.2 dB
>> Belden 8215 (RG-6A) - 2.5 dB
>> Belden 9258 (RG-8x) - 3.0 dB
>> Tandy RG-8x - 3.1 dB
>> Belden 8267 (RG-213) - 1.9 dB
>> Wireman CQ110 (RG-213) - 1.6 dB
>> Belden 8237 (RG-8) - 1.7 dB
>> belden 8213 (RG-11) = 1.2dB
>>
>
> Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240
> has 9.7dB of loss at 146 MHz.
>
> I won't go through your entire list.
>
> Check out http://www.vk1od.net/calc/tl/tllc.php
```

>

That's what I used..
Sure you got feet and not meters?

B9219, 75ft, 146 MHz = 1.811dB

1263. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 22:17:21 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irjv5k$1rr$1@dont-email.me>
Source record: 4714

On 5/25/2011 3:51 PM, Jim Lux wrote:
> On 5/24/2011 5:17 PM, John KD5YI wrote:
>> On 5/24/2011 6:11 PM, Jim Lux wrote:
>>> On 5/24/2011 2:54 PM, Dave Platt wrote:
>>>
>>>>
>>>>> I'm using 75' of
>>>>> professionally assembled RG8X which is required to get from the
>>>>> radio to
>>>>> the antenna.
>>>>
>>>> That's probably costing you about half of your power (assuming a
>>>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
>>>> better than this.
>>>>
>>>
>>> The results are all over the map. A piece of Cable TV cable might not be
>>> a bad choice, if you can scrounge one. The 75 ohms probably isn't a big
>>> deal.
>>>
>>> At 144 MHz, bigger in diameter almost always beats fancier dielectric
>>> (that is, the .405 inch RG-8, RG-213 flavors will usually beat any of
>>> the quarter inch cables (RG-6, RG-8X, LMR240, etc.) because dielectric
>>> losses aren't a big driver.. it's the IR loss in the center conductor.
>>> RG-11, for instance, has less than 1.2dB loss for a matched 75 foot
>>> line, and for the 1.5:1 mismatch, the loss only goes up 0.1 dB. (RG-11
>>> type coax has a solid dielectric, and is pretty darn rugged stuff)
>>>
>>> 75 feet, at 144 MHz
>>> LMR240 - 2.2 dB
>>> Belden 8215 (RG-6A) - 2.5 dB
>>> Belden 9258 (RG-8x) - 3.0 dB
>>> Tandy RG-8x - 3.1 dB
>>> Belden 8267 (RG-213) - 1.9 dB
>>> Wireman CQ110 (RG-213) - 1.6 dB
>>> Belden 8237 (RG-8) - 1.7 dB
>>> belden 8213 (RG-11) = 1.2dB
>>>
>>
>> Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240
>> has 9.7dB of loss at 146 MHz.
>>
>> I won't go through your entire list.
>>

>> Check out http://www.vk1od.net/calc/tl/tllc.php
>>
>
> That's what I used..
> Sure you got feet and not meters?
>
> B9219, 75ft, 146 MHz = 1.811dB

Yes, Jim, Ralph pointed that out to me yesterday and I posted an apology to him. I see that I should also analogize to you for my mistake.

Thanks to you both.

John

1264. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 22:18:46 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irjv89$1rr$2@dont-email.me>
Source record: 4715

```
On 5/25/2011 5:17 PM, John KD5YI wrote:
> On 5/25/2011 3:51 PM, Jim Lux wrote:
>> On 5/24/2011 5:17 PM, John KD5YI wrote:
>>> On 5/24/2011 6:11 PM, Jim Lux wrote:
>>>> On 5/24/2011 2:54 PM, Dave Platt wrote:
>>>>
>>>>>
>>>>>> I'm using 75' of
>>>>>> professionally assembled RG8X which is required to get from the
>>>>>> radio to
>>>>>> the antenna.
>>>>>
>>>>> That's probably costing you about half of your power (assuming a
>>>>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
>>>>> better than this.
>>>>>
>>>>
>>>> The results are all over the map. A piece of Cable TV cable might
>>>> not be
>>>> a bad choice, if you can scrounge one. The 75 ohms probably isn't a big
>>>> deal.
>>>>
>>>> At 144 MHz, bigger in diameter almost always beats fancier dielectric
>>>> (that is, the .405 inch RG-8, RG-213 flavors will usually beat any of
>>>> the quarter inch cables (RG-6, RG-8X, LMR240, etc.) because dielectric
>>>> losses aren't a big driver.. it's the IR loss in the center conductor.
>>>> RG-11, for instance, has less than 1.2dB loss for a matched 75 foot
>>>> line, and for the 1.5:1 mismatch, the loss only goes up 0.1 dB. (RG-11
>>>> type coax has a solid dielectric, and is pretty darn rugged stuff)
>>>>
>>>> 75 feet, at 144 MHz
>>>> LMR240 - 2.2 dB
>>>> Belden 8215 (RG-6A) - 2.5 dB
>>>> Belden 9258 (RG-8x) - 3.0 dB
>>>> Tandy RG-8x - 3.1 dB
>>>> Belden 8267 (RG-213) - 1.9 dB
>>>> Wireman CQ110 (RG-213) - 1.6 dB
>>>> Belden 8237 (RG-8) - 1.7 dB
>>>> belden 8213 (RG-11) = 1.2dB
>>>>
>>>
>>> Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240
>>> has 9.7dB of loss at 146 MHz.
>>>
```

>>> I won't go through your entire list.
>>>
>>> Check out http://www.vk1od.net/calc/tl/tllc.php
>>>
>>
>> That's what I used..
>> Sure you got feet and not meters?
>>
>> B9219, 75ft, 146 MHz = 1.811dB
>
> Yes, Jim, Ralph pointed that out to me yesterday and I posted an apology
> to him. I see that I should also analogize to you for my mistake.
> ^^^^^^^^^
> Thanks to you both. Apologize
>
> John

1265. FS Heath HM-2102 VHF SWR meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-25 23:56:24 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <irk4v5$1o9$1@dont-email.me>
Source record: 4716

I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Excellent condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

1266. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-26 00:37:46 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <irk7cqcoi1@news.jpl.nasa.gov>
Source record: 4717

On 5/25/2011 3:17 PM, John KD5YI wrote:
> On 5/25/2011 3:51 PM, Jim Lux wrote:

> Yes, Jim, Ralph pointed that out to me yesterday and I posted an apology
> to him. I see that I should also analogize to you for my mistake.
>
>

Darn newsreader that didn't have all the messages loaded.. I saw Ralph's comment and your reply. Such is life..

Now, if you want some high loss coax.. can I interest you in some tiny coax made of stainless steel? It's for cryogenic applications so it has very, very low thermal conductivity, but it also has really high loss. I don't think you want to be running kilowatts (or even watts) through it.

1267. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-26 01:27:49 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irkaao$t12$1@dont-email.me>
Source record: 4718

On 5/25/2011 7:37 PM, Jim Lux wrote:
> On 5/25/2011 3:17 PM, John KD5YI wrote:
>> On 5/25/2011 3:51 PM, Jim Lux wrote:
>
>> Yes, Jim, Ralph pointed that out to me yesterday and I posted an apology
>> to him. I see that I should also analogize to you for my mistake.
>>
>>
>
> Darn newsreader that didn't have all the messages loaded.. I saw Ralph's
> comment and your reply. Such is life..
>
> Now, if you want some high loss coax.. can I interest you in some tiny
> coax made of stainless steel? It's for cryogenic applications so it has
> very, very low thermal conductivity, but it also has really high loss. I
> don't think you want to be running kilowatts (or even watts) through it.

Well, thanks, Jim, for your kind offer. However I have plenty of lossy cable now. I only use in the lab because other options are difficult to handle.

Cheers,
John

1268. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-26 01:44:54 UTC
From: tom <news4792@taring.org>
Message-ID: <4dddb094$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4719

On 5/24/2011 8:08 PM, Ralph Mowery wrote:
> "John KD5YI"<sophi.2@invalid.org> wrote in message
> news:irhhrc$ee1$1@dont-email.me...
>>>
>>> 75 feet, at 144 MHz
>>> LMR240 - 2.2 dB
>>> Belden 8215 (RG-6A) - 2.5 dB
>>> Belden 9258 (RG-8x) - 3.0 dB
>>> Tandy RG-8x - 3.1 dB
>>> Belden 8267 (RG-213) - 1.9 dB
>>> Wireman CQ110 (RG-213) - 1.6 dB
>>> Belden 8237 (RG-8) - 1.7 dB
>>> belden 8213 (RG-11) = 1.2dB
>>>
>>
>> Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240 has
>> 9.7dB of loss at 146 MHz.
>>
>> I won't go through your entire list.
>>
>> Check out http://www.vk1od.net/calc/tl/tllc.php
>>
>> Cheers,
>> John
>>
>
> John you need to see where you went wrong. The numbers Jim listed are
> either correct or very close. I did not bother to do the calculations, but
> looking at a 100 foot chart, the numbers are very close and no where near
> the numbers you have.
>
> I thought you may have looked at the web page and missed it defauls to
> meters, but that does not seem to be the case to me.
>
>

According to the loss calculator at Times Microwave the loss at 144 MHz
for a 75 length of LMR 240 is 2.952. 100 METERS is 9.687.

Perhaps you misread.

tom
K0TAR

1269. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-26 01:50:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4dddb1f0$0$74947$8046368a@newsreader.iphouse.net>
Source record: 4720

On 5/25/2011 8:44 PM, tom wrote:
> On 5/24/2011 8:08 PM, Ralph Mowery wrote:
>> "John KD5YI"<sophi.2@invalid.org> wrote in message
>> news:irhhrc$ee1$1@dont-email.me...
>>>>
>>>> 75 feet, at 144 MHz
>>>> LMR240 - 2.2 dB
>>>> Belden 8215 (RG-6A) - 2.5 dB
>>>> Belden 9258 (RG-8x) - 3.0 dB
>>>> Tandy RG-8x - 3.1 dB
>>>> Belden 8267 (RG-213) - 1.9 dB
>>>> Wireman CQ110 (RG-213) - 1.6 dB
>>>> Belden 8237 (RG-8) - 1.7 dB
>>>> belden 8213 (RG-11) = 1.2dB
>>>>
>>>
>>> Huh? 75 ft of RG-11 has almost 8dB of loss at 146MHz. 75 ft of LMR240
>>> has
>>> 9.7dB of loss at 146 MHz.
>>>
>>> I won't go through your entire list.
>>>
>>> Check out http://www.vk1od.net/calc/tl/tllc.php
>>>
>>> Cheers,
>>> John
>>>
>>
>> John you need to see where you went wrong. The numbers Jim listed are
>> either correct or very close. I did not bother to do the calculations,
>> but
>> looking at a 100 foot chart, the numbers are very close and no where near
>> the numbers you have.
>>
>> I thought you may have looked at the web page and missed it defauls to
>> meters, but that does not seem to be the case to me.
>>
>>
>
> According to the loss calculator at Times Microwave the loss at 144 MHz
> for a 75 length of LMR 240 is 2.952. 100 METERS is 9.687.
>
> Perhaps you misread.
>

> tom
> K0TAR
>

Oops, needed to do this one level up. Should have ɪesponded to John.

tom
K0TAR

1270. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-26 03:36:05 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <ed025273-516b-479e-a748-fb7387f61416@d19g2000prh.googlegroups.com>
Source record: 4721

On May 24, 2:43 pm, dpl...@radagast.org (Dave Platt) wrote:

> a *very* deep multipath
> cancellation effect playing out... maybe interference between a
> edge-diffraction path involving the office building, and reflections
> from nearby trees.

Not a Sea Story and relevant to my learning an important multipath lesson:

In 1974, I was on an aircraft carrier at a pier in Long Beach Shipyard. Ship's TV sigs not so good, so I ran a cable from the CPO lounge TV out and up to a flight deck catwalk. On the catwalk, I mounted a small all-channel antenna on a mast strapped to the rail. The transmitters (Mt. Wilson) were located away from that side. All very good pictures. In about two months, when the ship moved into drydock, it was turned 180, so I rotated our TV antenna to compensate. No good. Signals arriving across the flight deck were all awful. Unwatchable.

I suspected reflections from the flight deck, so I moved the antenna all the way aft, where it was receiving through clear air again. Bingo! Even through the added 150' of cable I needed, we got our nice pictures back.

"Sal"

1271. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-26 16:53:57 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <07e707c0-411a-4a34-afdc-39dcd7fc1e37@gv8g2000vbb.googlegroups.com>
Source record: 4722

On May 22, 2:04 pm, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I
> have a lot of trees, mostly poplars, in the direct path. I would have a
> line of sight if not for the trees as I'm up enough in altitude. I can
> cut the trees, they're mine, but finding the right ones is difficult and
> i don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it
> being applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

Im convinced that my J antenna that I used while camping radiated
mostly verticaly. The situation sounds very similar to yours. I
couldnt hit the repeater back home with 50 watts using the J- while
my wife could make contacts on her HT on the same repeater, Her
antenna was either a telescoping .5 wl or 5/8 wl connected directly to
her HT.

Jimmie

1272. Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-26 23:53:14 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irmp5e$1fi$1@dont-email.me>
Source record: 4723

Assume a non-reactive antenna. Start with a half-wave dipole.

What is the radiation resistance and what is the terminal resistance?

Thanks,
John

1273. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 03:07:56 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <56c76031-b193-4ec4-955e-70c8a8275415@e35g2000yqc.googlegroups.com>
Source record: 4724

Hello Kirk,

I sent you a PM with a result from Radio Mobile.

It took a long time to get RMW working, and getting the terrain data into the SW.

It is 10 years ago that I used RMW and that computer I don’t have anymore. I had to start from scratch. First checked with Dutch terrain data to see whether the results are meaningful.

When you look to the path profile, you have a huge margin (received power -76 dBm). I used 10W into a 2 dBi antenna (on both sides). I attached the path profile as generated by RMW (Personal Mail only).

Even reducing your antenna height to 1m AGL gives sufficient margin (Prx -86 dBm). I used 30m AGL for the repeater antenna. You have 1 degree elevation towards the repeater, that is huge (we don't have that in the Netherlands).

Assuming the data is correct, it is really strange that you can't hit the repeater. I couldn’t find were to set vegetation and cities, but even this shouldn't be a problem. I hope some other people can confirm the results from RMW.

With kind regards,

Wim
PA3DJS
www.tetech.nl

1274. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 03:56:49 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irn7e5$7p6$1@dont-email.me>
Source record: 4725

On 5/24/2011 11:05 PM, 'Captain' Kirk DeHaan wrote:
> Dave Platt said the following on 5/24/2011 2:54 PM:
>> In article<-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dnZ2d@posted.localnet>,
>> 'Captain' Kirk DeHaan<captkirk@ncc-1701a.net> wrote:
>>
>>>> All of this leads me to think that something else is wrong. I can hit a
>>>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>>>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>>>
>>> There may well be something wrong with the antenna. I don't have an SWR
>>> meter handy but will try and borrow one from a club member. The J-pole
>>> was beat around quite a bit over the years but since the radio has a
>>> limiting circuit if the SWR is too far out of whack I am assuming it is
>>> fairly close. It will transmit of full power.
>>
>> One of the things to know about the American Legion J-pole (and most
>> vaguely-similar J-poles) is that it has no feedline or mount-point
>> isolation to speak of. The outside of the feedline coax, and any pipe
>> or tower or other metal to which you strap the antenna, become part of
>> the antenna's ground system, and can radiate a significant amount of
>> RF. This can interact with the RF coming from the main radiator, and
>> significantly alter the antenna's pattern... it no longer behaves like
>> an idealized half-wave vertical radiator.
>>
>> In most installations this doesn't seem to matter all that much... but
>> it's possible that you've got some sort of weird interaction (feedline
>> emissions, reflections from the ground or nearby metal, etc.) which is
>> creating a null in the antenna's pattern in just the wrong direction.
>> If this is an issue (not all that likely but perhaps possible) you
>> could insulate the antenna from the mounting mask, and install a choke
>> (e.g. a few ferrite cores) on the feedline just below the antenna.
>
> It is mounted on an angle bracket about 12" from a mast 20' above my
> metal roof. The mast is isolated from roof but is not yet grounded.
>
>>
>> Also, the American Legion J-poles are subject to a couple of forms of
>> mechanical/electrical failure after a few years. The plastic
>> insulator which spaces apart the radiator and matching arm can degrade
>> (UV from sunlight is the main offendor, I believe) and crack, allowing
>> the two arms to change spacing. More subtly, the connection between
>> the two arms and the metal base can degrade... it's aluminum-to-
>> aluminum using a set-screw, and the connection can loosen and corrode.
>

> My spacer basically disintegrated. I replaced it with 1/2" pvc pipe. I
> measured the spacing at the base and got it as close as possible.
>
> I will check out the other connections. There is obvious aluminum oxide
> on the assembly so it is very possible it is down between the parts.
>
> I'll get up on my steep metal roof after the rains stop. :-)
>
>>
>> It might be worth checking the spacer (replace if necessary), and
>> checking and tuning up the set-screw connections (squirt with Liquid
>> Wrench if necessary, loosen and remove, take out the rods, clean the
>> ends of the rods and the mounting holes in the place, dab with NoAlOx
>> or a similar corrosion-blocker, reassemble and tighten).
>>
>>> I'm using 75' of
>>> professionally assembled RG8X which is required to get from the radio to
>>> the antenna.
>>
>> That's probably costing you about half of your power (assuming a
>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
>> better than this.
>>
>
> Thanks for the suggestions.
>

Hey, Kirk -

After reading Wim's response, I am more convinced than ever that you
have a problem with your antenna, coax, or transceiver.

What type of coax are you using? Could it have gotten water inside? Are
you using the coax that you used 10 years ago?

Try to think of other question similar to these and we'll get to the
bottom of this.

Cheers,
John

1275. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 05:37:20 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <a8298c4f-b23f-4e2c-a9da-dc07e6f42128@f31g2000pri.googlegroups.com>
Source record: 4726

On May 26, 4:53 pm, John KD5YI <soph...@invalid.org> wrote:
> Assume a non-reactive antenna. Start with a half-wave dipole.
>
> What is the radiation resistance and what is the terminal resistance?
>
> Thanks,
> John

Radiation resistance can be, and is, defined differently by different writers. Often the term is used without clarifying definition, and of course that leads to trouble. Beware any time an author throws around "radiation resistance" without carefully defining how he means it. There's a nice section (section 17; page 118) on it in King's "Antennas" chapter of King, Mimno and Wing's "Transmission Lines, Antennas and Wave Guides." I highly recommend reading that passage, though I know that not everyone likes King's writing as much as I do. (I may be able to supply a PDF of it, if you can't find the book.) Generally, radiation resistance is associated with power actually radiated by the antenna: i^2 * R(radiation). One possible definition is "that portion of the resistive component of the feedpoint terminal impedance that represents radiation." But when the feedpoint is not at a current maximum, "radiation resistance" is sometimes (often?) taken instead to be the resistance which, when multiplied by the square of the current at the current maximum, would result in the value of the radiated power.

Presumably the "terminal resistance" is the resistive component of the impedance seen at the antenna's feedpoint terminals. It's generally a good idea to specify that the current is the same magnitude and opposite direction in the two feedpoint terminals, and that they are closely spaced--a tiny fraction of a wavelength apart.

The difference between the two represents power dissipated in the antenna itself. Of course that's generally a pretty low percentage of the total in self-resonant antennas, but in short antennas (loaded dipoles and monopoles, and tuned loops that are very small compared with the wavelength) the power lost in heating the antenna and associated loading reactances can be significant.

Cheers,
Tom

1276. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 15:17:03 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <irof9gnfp1@news.jpl.nasa.gov>
Source record: 4727

On 5/26/2011 10:37 PM, K7ITM wrote:
> On May 26, 4:53 pm, John KD5YI<soph...@invalid.org> wrote:
>> Assume a non-reactive antenna. Start with a half-wave dipole.
>>
>> What is the radiation resistance and what is the terminal resistance?
>>
>> Thanks,
>> John
>
> Radiation resistance can be, and is, defined differently by different
> writers. Often the term is used without clarifying definition, and of
> course that leads to trouble. Beware any time an author throws around
> "radiation resistance" without carefully defining how he means it.
> There's a nice section (section 17; page 118) on it in King's
> "Antennas" chapter of King, Mimno and Wing's "Transmission Lines,
> Antennas and Wave Guides." I highly recommend reading that passage,
> though I know that not everyone likes King's writing as much as I do.
> (I may be able to supply a PDF of it, if you can't find the book.)
> Generally, radiation resistance is associated with power actually
> radiated by the antenna: i^2 * R(radiation). One possible definition
> is "that portion of the resistive component of the feedpoint terminal
> impedance that represents radiation." But when the feedpoint is not
> at a current maximum, "radiation resistance" is sometimes (often?)
> taken instead to be the resistance which, when multiplied by the
> square of the current at the current maximum, would result in the
> value of the radiated power.

Orfanidis has an explanation in Chapter 15 of his online
electromagnetics textbook
http://www.ece.rutgers.edu/~orfanidi/ewa/ch15.pdf
page 612

Not a very complete discussion, as might be found in Kraus, but at least
it's online.

There's also Prof. David Jeffreries's website
http://personal.ee.surrey.ac.uk/Personal/D.Jefferies/radimp.html
"The classical way to calculate the radiation resistance is to surround
the antenna with a hypothetical closed surface in the far field,
calculate the values of electric field and Poynting vector on this
surface in terms of the antenna terminal current I, integrate the power
flow per unit area, represented by the Poynting vector, all over this
surface, to determine the total outward travelling power in watts, and
equate this power to the quantity II*Rrad/2 as discussed above. "

1277. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 17:49:52 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <iroo86ang1@dont-email.me>
Source record: 4728

On 5/27/2011 12:37 AM, K7ITM wrote:
> On May 26, 4:53 pm, John KD5YI<soph...@invalid.org> wrote:
>> Assume a non-reactive antenna. Start with a half-wave dipole.
>>
>> What is the radiation resistance and what is the terminal resistance?
>>
>> Thanks,
>> John
>
> Radiation resistance can be, and is, defined differently by different
> writers. Often the term is used without clarifying definition, and of
> course that leads to trouble. Beware any time an author throws around
> "radiation resistance" without carefully defining how he means it.
> There's a nice section (section 17; page 118) on it in King's
> "Antennas" chapter of King, Mimno and Wing's "Transmission Lines,
> Antennas and Wave Guides." I highly recommend reading that passage,
> though I know that not everyone likes King's writing as much as I do.
> (I may be able to supply a PDF of it, if you can't find the book.)
> Generally, radiation resistance is associated with power actually
> radiated by the antenna: i^2 * R(radiation). One possible definition
> is "that portion of the resistive component of the feedpoint terminal
> impedance that represents radiation." But when the feedpoint is not
> at a current maximum, "radiation resistance" is sometimes (often?)
> taken instead to be the resistance which, when multiplied by the
> square of the current at the current maximum, would result in the
> value of the radiated power.
>
> Presumably the "terminal resistance" is the resistive component of the
> impedance seen at the antenna's feedpoint terminals. It's generally a
> good idea to specify that the current is the same magnitude and
> opposite direction in the two feedpoint terminals, and that they are
> closely spaced--a tiny fraction of a wavelength apart.
>
> The difference between the two represents power dissipated in the
> antenna itself. Of course that's generally a pretty low percentage of
> the total in self-resonant antennas, but in short antennas (loaded
> dipoles and monopoles, and tuned loops that are very small compared
> with the wavelength) the power lost in heating the antenna and
> associated loading reactances can be significant.
>
> Cheers,
> Tom

Thanks, Tom. That pretty much answers my question.

Thanks also to Jim.

73,
John

1278. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 19:30:26 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <pZCdnVd2h-9MZkLQnZ2dnUVZ_sednZ2d@posted.localnet>
Source record: 4729

John KD5YI said the following on 5/26/2011 8:56 PM:
> On 5/24/2011 11:05 PM, 'Captain' Kirk DeHaan wrote:
>> Dave Platt said the following on 5/24/2011 2:54 PM:
>>> In article<-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dnZ2d@posted.localnet>,
>>> 'Captain' Kirk DeHaan<captkirk@ncc-1701a.net> wrote:
>>>
>>>>> All of this leads me to think that something else is wrong. I can
>>>>> hit a
>>>>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>>>>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>>>>
>>>> There may well be something wrong with the antenna. I don't have an SWR
>>>> meter handy but will try and borrow one from a club member. The J-pole
>>>> was beat around quite a bit over the years but since the radio has a
>>>> limiting circuit if the SWR is too far out of whack I am assuming it is
>>>> fairly close. It will transmit of full power.
>>>
>>> One of the things to know about the American Legion J-pole (and most
>>> vaguely-similar J-poles) is that it has no feedline or mount-point
>>> isolation to speak of. The outside of the feedline coax, and any pipe
>>> or tower or other metal to which you strap the antenna, become part of
>>> the antenna's ground system, and can radiate a significant amount of
>>> RF. This can interact with the RF coming from the main radiator, and
>>> significantly alter the antenna's pattern... it no longer behaves like
>>> an idealized half-wave vertical radiator.
>>>
>>> In most installations this doesn't seem to matter all that much... but
>>> it's possible that you've got some sort of weird interaction (feedline
>>> emissions, reflections from the ground or nearby metal, etc.) which is
>>> creating a null in the antenna's pattern in just the wrong direction.
>>> If this is an issue (not all that likely but perhaps possible) you
>>> could insulate the antenna from the mounting mask, and install a choke
>>> (e.g. a few ferrite cores) on the feedline just below the antenna.
>>
>> It is mounted on an angle bracket about 12" from a mast 20' above my
>> metal roof. The mast is isolated from roof but is not yet grounded.
>>
>>>
>>> Also, the American Legion J-poles are subject to a couple of forms of
>>> mechanical/electrical failure after a few years. The plastic
>>> insulator which spaces apart the radiator and matching arm can degrade
>>> (UV from sunlight is the main offendor, I believe) and crack, allowing
>>> the two arms to change spacing. More subtly, the connection between
>>> the two arms and the metal base can degrade... it's aluminum-to-

>>> aluminum using a set-screw, and the connection can loosen and corrode.
>>
>> My spacer basically disintegrated. I replaced it with 1/2" pvc pipe. I
>> measured the spacing at the base and got it as close as possible.
>>
>> I will check out the other connections. There is obvious aluminum oxide
>> on the assembly so it is very possible it is down between the parts.
>>
>> I'll get up on my steep metal roof after the rains stop. :-)
>>
>>>
>>> It might be worth checking the spacer (replace if necessary), and
>>> checking and tuning up the set-screw connections (squirt with Liquid
>>> Wrench if necessary, loosen and remove, take out the rods, clean the
>>> ends of the rods and the mounting holes in the place, dab with NoAlOx
>>> or a similar corrosion-blocker, reassemble and tighten).
>>>
>>>> I'm using 75' of
>>>> professionally assembled RG8X which is required to get from the
>>>> radio to
>>>> the antenna.
>>>
>>> That's probably costing you about half of your power (assuming a
>>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
>>> better than this.
>>>
>>
>> Thanks for the suggestions.
>>
>
> Hey, Kirk -
>
> After reading Wim's response, I am more convinced than ever that you
> have a problem with your antenna, coax, or transceiver.
>
> What type of coax are you using? Could it have gotten water inside? Are
> you using the coax that you used 10 years ago?
>
> Try to think of other question similar to these and we'll get to the
> bottom of this.
>
> Cheers,
> John

John,

I believe it is either the trees or the antenna. The coax is new and
the transceiver worked fine last time I used it. Also works fine with
this setup getting into the repeater on Schweitzer , 145.230, with 5
watts and the signal report from a gentleman I spoke to was 59. That is
a clear shot and a few miles closer. Although the profiles show there

should be a clear shot to the .780 repeater I can gurantee there is a wall of trees on the first little ridge on the profile. I found that my club, which I've only been with for a month, has an SWR meter and an antenna analyzer. I hope to borrow them to see what's up. In the meantime I will pull the J-pole down and clean it up as suggested. There is considerable aluminum oxide on the outside of the parts so there may be some between the base and uprights. When I put it back up I will move it 180 degrees from it current location. That will only move it about 2' but who knows.

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1279. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 20:57:27 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <18e644ca-e40b-450a-92b7-bf382bd84433@y12g2000yqh.googlegroups.com>
Source record: 4730

On 27 mayo, 21:30, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> John KD5YI said the following on 5/26/2011 8:56 PM:
>
>
>
> > On 5/24/2011 11:05 PM, 'Captain' Kirk DeHaan wrote:
> >> Dave Platt said the following on 5/24/2011 2:54 PM:
> >>> In article<-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dn...@posted.localnet>,
> >>> 'Captain' Kirk DeHaan<captk...@ncc-1701a.net> wrote:
>
> >>>> All of this leads me to think that something else is wrong. I can
> >>>> hit a
> >>>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
> >>>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>
> >>> There may well be something wrong with the antenna. I don't have an SWR
> >>> meter handy but will try and borrow one from a club member. The J-pole
> >>> was beat around quite a bit over the years but since the radio has a
> >>> limiting circuit if the SWR is too far out of whack I am assuming it is
> >>> fairly close. It will transmit of full power.
>
> >>> One of the things to know about the American Legion J-pole (and most
> >>> vaguely-similar J-poles) is that it has no feedline or mount-point
> >>> isolation to speak of. The outside of the feedline coax, and any pipe
> >>> or tower or other metal to which you strap the antenna, become part of
> >>> the antenna's ground system, and can radiate a significant amount of
> >>> RF. This can interact with the RF coming from the main radiator, and
> >>> significantly alter the antenna's pattern... it no longer behaves like
> >>> an idealized half-wave vertical radiator.
>
> >>> In most installations this doesn't seem to matter all that much... but
> >>> it's possible that you've got some sort of weird interaction (feedline
> >>> emissions, reflections from the ground or nearby metal, etc.) which is
> >>> creating a null in the antenna's pattern in just the wrong direction.
> >>> If this is an issue (not all that likely but perhaps possible) you
> >>> could insulate the antenna from the mounting mask, and install a choke
> >>> (e.g. a few ferrite cores) on the feedline just below the antenna.
>
> >> It is mounted on an angle bracket about 12" from a mast 20' above my
> >> metal roof. The mast is isolated from roof but is not yet grounded.
>
> >>> Also, the American Legion J-poles are subject to a couple of forms of
> >>> mechanical/electrical failure after a few years. The plastic

> >>> insulator which spaces apart the radiator and matching arm can degrade
> >>> (UV from sunlight is the main offendor, I believe) and crack, allowing
> >>> the two arms to change spacing. More subtly, the connection between
> >>> the two arms and the metal base can degrade... it's aluminum-to-
> >>> aluminum using a set-screw, and the connection can loosen and corrode.
>
> >> My spacer basically disintegrated. I replaced it with 1/2" pvc pipe. I
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>
> >> I will check out the other connections. There is obvious aluminum oxide
> >> on the assembly so it is very possible it is down between the parts.
>
> >> I'll get up on my steep metal roof after the rains stop. :-)
>
> >>> It might be worth checking the spacer (replace if necessary), and
> >>> checking and tuning up the set-screw connections (squirt with Liquid
> >>> Wrench if necessary, loosen and remove, take out the rods, clean the
> >>> ends of the rods and the mounting holes in the place, dab with NoAlOx
> >>> or a similar corrosion-blocker, reassemble and tighten).
>
> >>>> I'm using 75' of
> >>>> professionally assembled RG8X which is required to get from the
> >>>> radio to
> >>>> the antenna.
>
> >>> That's probably costing you about half of your power (assuming a
> >>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
> >>> better than this.
>
> >> Thanks for the suggestions.
>
> > Hey, Kirk -
>
> > After reading Wim's response, I am more convinced than ever that you
> > have a problem with your antenna, coax, or transceiver.
>
> > What type of coax are you using? Could it have gotten water inside? Are
> > you using the coax that you used 10 years ago?
>
> > Try to think of other question similar to these and we'll get to the
> > bottom of this.
>
> > Cheers,
> > John
>
Hello Kirk,

> John,
>
> I believe it is either the trees or the antenna. The coax is new and

> the transceiver worked fine last time I used it. Also works fine with
> this setup getting into the repeater on Schweitzer , 145.230, with 5
> watts and the signal report from a gentleman I spoke to was 59. That is
> a clear shot and a few miles closer. Although the profiles show there
> should be a clear shot to the .780 repeater I can gurantee there is a
> wall of trees on the first little ridge on the profile.

Are you pointing to the trees that are about 160m south of you and
below (that are also visible in google earth)?

If so, I can't believe that this will put down your signal from about
-76 dBm towards unreadable (so in the -117 dBm range). Reason: the
first Fresnel zone has a diameter of 36m (118ft) at 160m (525ft) from
your antenna and I don't expect all trees are over (for example) 20m
(60ft) height.

> I found that my
> club, which I've only been with for a month, has an SWR meter and an
> antenna analyzer. I hope to borrow them to see what's up. In the
> meantime I will pull the J-pole down and clean it up as suggested.
> There is considerable aluminum oxide on the outside of the parts so
> there may be some between the base and uprights. When I put it back up
> I will move it 180 degrees from it current location. That will only
> move it about 2' but who knows.
>
> --
> 'Captain' Kirk DeHaan
> N6SXR
>
> "Beam me up Scotty, there's no intelligent life here"

Wim
PA3DJS
www.tetech.nl

1280. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-27 22:51:40 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <8-idnQeDL5Jnt33QnZ2dnUVZ_rednZ2d@earthlink.com>
Source record: 4731

"'Captain' Kirk DeHaan" <captkirk@ncc-1701a.net> wrote in message
news:pZCdnVd2h-> I believe it is either the trees or the antenna. The coax
is new and
> the transceiver worked fine last time I used it. Also works fine with
> this setup getting into the repeater on Schweitzer , 145.230, with 5 watts
> and the signal report from a gentleman I spoke to was 59. That is a clear
> shot and a few miles closer. Although the profiles show there should be a
> clear shot to the .780 repeater I can gurantee there is a wall of trees on
> the first little ridge on the profile. I found that my club, which I've
> only been with for a month, has an SWR meter and an antenna analyzer. I
> hope to borrow them to see what's up. In the meantime I will pull the
> J-pole down and clean it up as suggested. There is considerable aluminum
> oxide on the outside of the parts so there may be some between the base
> and uprights. When I put it back up I will move it 180 degrees from it
> current location. That will only move it about 2' but who knows.
>

I may have missed it, but have you tried riding around with a mobile rig and
seeing if you can hit the repeater ?

A SWR meter may not tell you much about the antenna. I think you are using
rg-8x. The coax will have enough loss at 2 meters to give a very low false
reading. YOu can probably unhook the coax from the antenna and only show
about a 3:1 swr.

1281. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-28 03:44:04 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irpr29pjj1@dont-email.me>
Source record: 4732

On 5/27/2011 12:37 AM, K7ITM wrote:
> On May 26, 4:53 pm, John KD5YI<soph...@invalid.org> wrote:
>> Assume a non-reactive antenna. Start with a half-wave dipole.
>>
>> What is the radiation resistance and what is the terminal resistance?
>>
>> Thanks,
>> John
>
> Radiation resistance can be, and is, defined differently by different
> writers. Often the term is used without clarifying definition, and of
> course that leads to trouble. Beware any time an author throws around
> "radiation resistance" without carefully defining how he means it.
> There's a nice section (section 17; page 118) on it in King's
> "Antennas" chapter of King, Mimno and Wing's "Transmission Lines,
> Antennas and Wave Guides." I highly recommend reading that passage,
> though I know that not everyone likes King's writing as much as I do.
> (I may be able to supply a PDF of it, if you can't find the book.)
> Generally, radiation resistance is associated with power actually
> radiated by the antenna: i^2 * R(radiation). One possible definition
> is "that portion of the resistive component of the feedpoint terminal
> impedance that represents radiation." But when the feedpoint is not
> at a current maximum, "radiation resistance" is sometimes (often?)
> taken instead to be the resistance which, when multiplied by the
> square of the current at the current maximum, would result in the
> value of the radiated power.

Of course. It all makes sense now. Feeding a 1/2W dipole in the center causes one to measure approximately the Rr. However the dipole can be fed at some other point. Even fed at one end where the feed point resistance can be in the hundreds to thousands of ohms.

So, radiation resistance is a convenient device (along with current at that point) that we use to represent power "lost" from the antenna through radiation. Good. I can understand that.

Gotta be very careful of the definitions. It was in Kraus' Antennas For All Applications that raised my question.

> Presumably the "terminal resistance" is the resistive component of the
> impedance seen at the antenna's feedpoint terminals. It's generally a
> good idea to specify that the current is the same magnitude and
> opposite direction in the two feedpoint terminals, and that they are
> closely spaced--a tiny fraction of a wavelength apart.

I understand.

> The difference between the two represents power dissipated in the
> antenna itself. Of course that's generally a pretty low percentage of
> the total in self-resonant antennas, but in short antennas (loaded
> dipoles and monopoles, and tuned loops that are very small compared
> with the wavelength) the power lost in heating the antenna and
> associated loading reactances can be significant.

That, too, is understandable.

> Cheers,
> Tom

Thanks again, Tom, for this.

Also, I understand Jim's reference to integrating the volume to get the radiated power and, hence, Rr. Thanks, Jim.

Cheers & 73,
John

1282. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-28 03:57:09 UTC
From: tom <news4792@taring.org>
Message-ID: <4de07292$0$74946$8046368a@newsreader.iphouse.net>
Source record: 4733

On 5/26/2011 11:53 AM, JIMMIE wrote:
> On May 22, 2:04 pm, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
> wrote:
>> I'm living in a wooded area and am trying to hit our club repeater
>> reliably. It's cloudy now so I'm and getting a bit of ducting but I
>> have a lot of trees, mostly poplars, in the direct path. I would have a
>> line of sight if not for the trees as I'm up enough in altitude. I can
>> cut the trees, they're mine, but finding the right ones is difficult and
>> i don't want to waste the whole grove.
>>
>> I go from keying the repeater with no intelligible signal to not being
>> able to hit it. Today I actually have an S meter reading due to the
>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>> wonder if NVIS would work on 2m? I have only seen references to it
>> being applied in HF.
>>
>> 'Captain' Kirk DeHaan
>> N6SXR
>
> Im convinced that my J antenna that I used while camping radiated
> mostly verticaly. The situation sounds very similar to yours. I
> couldnt hit the repeater back home with 50 watts using the J- while
> my wife could make contacts on her HT on the same repeater, Her
> antenna was either a telescoping .5 wl or 5/8 wl connected directly to
> her HT.
>
> Jimmie

The antenna itself could not have radiated a significant percentage
vertically if used near the design frequency. It is effectively a half
wave vertical if properly constructed and fed. Fed being the most critical.

If you didn't choke the coax properly and it was parallel to the ground
you may have radiated some towards the zenith. But I doubt it was most.

tom
K0TAR

1283. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-28 21:25:47 UTC
From: Frank <fmerriman@nycny.net>
Message-ID: <7e0b1fb0-ff14-4b63-9b3a-6db3cf777e66@c26g2000vbq.googlegroups.com>
Source record: 4734

On May 28, 3:44 am, John KD5YI <soph...@invalid.org> wrote:
> On 5/27/2011 12:37 AM, K7ITM wrote:
>
>
>
>
>
>
>
>
>
>
> > On May 26, 4:53 pm, John KD5YI<soph...@invalid.org> wrote:
> >> Assume a non-reactive antenna. Start with a half-wave dipole.
>
> >> What is the radiation resistance and what is the terminal resistance?
>
> >> Thanks,
> >> John
>
> > Radiation resistance can be, and is, defined differently by different
> > writers. Often the term is used without clarifying definition, and of
> > course that leads to trouble. Beware any time an author throws around
> > "radiation resistance" without carefully defining how he means it.
> > There's a nice section (section 17; page 118) on it in King's
> > "Antennas" chapter of King, Mimno and Wing's "Transmission Lines,
> > Antennas and Wave Guides." I highly recommend reading that passage,
> > though I know that not everyone likes King's writing as much as I do.
> > (I may be able to supply a PDF of it, if you can't find the book.)
> > Generally, radiation resistance is associated with power actually
> > radiated by the antenna: i^2 * R(radiation). One possible definition
> > is "that portion of the resistive component of the feedpoint terminal
> > impedance that represents radiation." But when the feedpoint is not
> > at a current maximum, "radiation resistance" is sometimes (often?)
> > taken instead to be the resistance which, when multiplied by the
> > square of the current at the current maximum, would result in the
> > value of the radiated power.
>
> Of course. It all makes sense now. Feeding a 1/2W dipole in the center
> causes one to measure approximately the Rr. However the dipole can be
> fed at some other point. Even fed at one end where the feed point
> resistance can be in the hundreds to thousands of ohms.
>
> So, radiation resistance is a convenient device (along with current at
> that point) that we use to represent power "lost" from the antenna

> through radiation. Good. I can understand that.
>
> Gotta be very careful of the definitions. It was in Kraus' Antennas For
> All Applications that raised my question.
>
> > Presumably the "terminal resistance" is the resistive component of the
> > impedance seen at the antenna's feedpoint terminals. It's generally a
> > good idea to specify that the current is the same magnitude and
> > opposite direction in the two feedpoint terminals, and that they are
> > closely spaced--a tiny fraction of a wavelength apart.
>
> I understand.
>
> > The difference between the two represents power dissipated in the
> > antenna itself. Of course that's generally a pretty low percentage of
> > the total in self-resonant antennas, but in short antennas (loaded
> > dipoles and monopoles, and tuned loops that are very small compared
> > with the wavelength) the power lost in heating the antenna and
> > associated loading reactances can be significant.
>
> That, too, is understandable.
>
> > Cheers,
> > Tom
>
> Thanks again, Tom, for this.
>
> Also, I understand Jim's reference to integrating the volume to get the
> radiated power and, hence, Rr. Thanks, Jim.
>
> Cheers & 73,
> John

Blah de blah

How many amateur radio operators use this kind of academic preening
when they are putting up a dipole.

Too much hand-waving here to be useful to most folks.

1284. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-28 21:41:18 UTC
From: John KD5YI <sophi.2@invalid.org>
Message-ID: <irrq65opq1@dont-email.me>
Source record: 4735

On 5/28/2011 4:25 PM, Frank wrote:
>
> Blah de blah
>
> How many amateur radio operators use this kind of academic preening
> when they are putting up a dipole.
>
> Too much hand-waving here to be useful to most folks.

Then do us all a favor, Frank, and don't participate in the discussion.
Your hand-waving is not useful either.

1285. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-28 22:27:17 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <irrssb$a9h$1@dont-email.me>
Source record: 4736

On 5/28/2011 5:11 PM, Frank wrote:
>
>>
>> Then do us all a favor, Frank, and don't participate in the discussion.
>> Your hand-waving is not useful either.
>
> So you figured out a dipole should be fed at the mid-point? You are a
> fucking genius :-)
>
> Please continue with your penetrating questions; we are hanging on
> every word....
>

You may kiss my dipole, Frankenstein.

1286. Re: It's how I want it

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-28 22:57:57 UTC
From: Dusty@winding.org
Message-ID: <4de17e10$0$1965$bbae4d71@news.suddenlink.net>
Source record: 4737

On 5/28/2011 5:32 PM, Frank wrote:
> On May 16, 1:07 am, Allodoxaphobia<knock_yourself_...@example.net>
> wrote:
>> On Sun, 15 May 2011 17:11:45 -0400, aa7bq wrote:
>>> This is in regards to the thread on qrz.com.
>>
>> Then why, in bloody blue blazes, do you feel it should
>> pollute the usenet newsgroup rec.radio.amateur.antenna?
>>
>>> <- snip big rant ->
>>
>> (probably a write-only poster, anyway...)
>
> eHam.net is much better than QRZ.com :-)
>

Is that where the rest of the snobs go?

---
avast! Antivirus: Outbound message clean.
Virus Database (VPS): 110528-1, 05/28/2011
Tested on: 5/28/2011 6:57:58 PM
avast! - copyright (c) 1988-2011 AVAST Software.
http://www.avast.com

1287. Re: A3S with 40 meter add on kit

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-29 00:47:09 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <7j53u6t10nvfn9vsct11jpvrg357h0qdpv@4ax.com>
Source record: 4738

On Mon, 23 May 2011 16:29:57 -0400, "D@LS" <helmsman@wowway.com/>
wrote:

>Does the 40 meter addition change the 20 meter reflector beam to the center beam and the
reflector
>beam to 15 meters?
>
>I am assuming the A3S by itself works as the shortest beam is 10 meters the 15 meter beam
is the
>middle and the 20 meter as the longest?
>
>TIA

The Cushcraft A3S beam has 3 elements. The driven element is setup to
be used as a rotatable dipole on 40 meters. It works a lot better than
it sounds.

The spacing of the elements on the boom does not change.

1288. Re: A3S with 40 meter add on kit

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-29 13:30:27 UTC
From: "D@LS" <helmsman@wowway.com/>
Message-ID: <fdi4u6hneevj6sc9r9qbapogto8iihusk9@4ax.com>
Source record: 4739

On Sat, 28 May 2011 20:47:09 -0400, W8CCW <Jferrell13@triad.rr.com> wrote:

>On Mon, 23 May 2011 16:29:57 -0400, "D@LS" <helmsman@wowway.com/>
>wrote:
>
>>Does the 40 meter addition change the 20 meter reflector beam to the center beam and the reflector
>>beam to 15 meters?
>>
>>I am assuming the A3S by itself works as the shortest beam is 10 meters the 15 meter beam is the
>>middle and the 20 meter as the longest?
>>
>>TIA
>
>The Cushcraft A3S beam has 3 elements. The driven element is setup to
>be used as a rotatable dipole on 40 meters. It works a lot better than
>it sounds.
>
>The spacing of the elements on the boom does not change.
Thanks.

Between the Rotor and the A3s/ and the Dipole getting it up to 40ft should be a real pain.

1289. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-29 20:54:43 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <80752a91-87ae-44e9-8719-939ffca885b5@h7g2000yqa.googlegroups.com>
Source record: 4740

On 27 mayo, 21:30, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> John KD5YI said the following on 5/26/2011 8:56 PM:
>
>
>
> > On 5/24/2011 11:05 PM, 'Captain' Kirk DeHaan wrote:
> >> Dave Platt said the following on 5/24/2011 2:54 PM:
> >>> In article<-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dn...@posted.localnet>,
> >>> 'Captain' Kirk DeHaan<captk...@ncc-1701a.net> wrote:
>
> >>>>> All of this leads me to think that something else is wrong. I can
> >>>>> hit a
> >>>>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
> >>>>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>
> >>>> There may well be something wrong with the antenna. I don't have an SWR
> >>>> meter handy but will try and borrow one from a club member. The J-pole
> >>>> was beat around quite a bit over the years but since the radio has a
> >>>> limiting circuit if the SWR is too far out of whack I am assuming it is
> >>>> fairly close. It will transmit of full power.
>
> >>> One of the things to know about the American Legion J-pole (and most
> >>> vaguely-similar J-poles) is that it has no feedline or mount-point
> >>> isolation to speak of. The outside of the feedline coax, and any pipe
> >>> or tower or other metal to which you strap the antenna, become part of
> >>> the antenna's ground system, and can radiate a significant amount of
> >>> RF. This can interact with the RF coming from the main radiator, and
> >>> significantly alter the antenna's pattern... it no longer behaves like
> >>> an idealized half-wave vertical radiator.
>
> >>> In most installations this doesn't seem to matter all that much... but
> >>> it's possible that you've got some sort of weird interaction (feedline
> >>> emissions, reflections from the ground or nearby metal, etc.) which is
> >>> creating a null in the antenna's pattern in just the wrong direction.
> >>> If this is an issue (not all that likely but perhaps possible) you
> >>> could insulate the antenna from the mounting mask, and install a choke
> >>> (e.g. a few ferrite cores) on the feedline just below the antenna.
>
> >> It is mounted on an angle bracket about 12" from a mast 20' above my
> >> metal roof. The mast is isolated from roof but is not yet grounded.
>
> >>> Also, the American Legion J-poles are subject to a couple of forms of
> >>> mechanical/electrical failure after a few years. The plastic

> >>> insulator which spaces apart the radiator and matching arm can degrade
> >>> (UV from sunlight is the main offendor, I believe) and crack, allowing
> >>> the two arms to change spacing. More subtly, the connection between
> >>> the two arms and the metal base can degrade... it's aluminum-to-
> >>> aluminum using a set-screw, and the connection can loosen and corrode.
>
> >> My spacer basically disintegrated. I replaced it with 1/2" pvc pipe. I
> >> measured the spacing at the base and got it as close as possible.
>
> >> I will check out the other connections. There is obvious aluminum oxide
> >> on the assembly so it is very possible it is down between the parts.
>
> >> I'll get up on my steep metal roof after the rains stop. :-)
>
> >>> It might be worth checking the spacer (replace if necessary), and
> >>> checking and tuning up the set-screw connections (squirt with Liquid
> >>> Wrench if necessary, loosen and remove, take out the rods, clean the
> >>> ends of the rods and the mounting holes in the place, dab with NoAlOx
> >>> or a similar corrosion-blocker, reassemble and tighten).
>
> >>>> I'm using 75' of
> >>>> professionally assembled RG8X which is required to get from the
> >>>> radio to
> >>>> the antenna.
>
> >>> That's probably costing you about half of your power (assuming a
> >>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
> >>> better than this.
>
> >> Thanks for the suggestions.
>
> > Hey, Kirk -
>
> > After reading Wim's response, I am more convinced than ever that you
> > have a problem with your antenna, coax, or transceiver.
>
> > What type of coax are you using? Could it have gotten water inside? Are
> > you using the coax that you used 10 years ago?
>
> > Try to think of other question similar to these and we'll get to the
> > bottom of this.
>
> > Cheers,
> > John
>
> John,
>
> I believe it is either the trees or the antenna. The coax is new and
> the transceiver worked fine last time I used it. Also works fine with
> this setup getting into the repeater on Schweitzer , 145.230, with 5

> watts and the signal report from a gentleman I spoke to was 59. That is
> a clear shot and a few miles closer. Although the profiles show there
> should be a clear shot to the .780 repeater I can gurantee there is a
> wall of trees on the first little ridge on the profile. I found that my
> club, which I've only been with for a month, has an SWR meter and an
> antenna analyzer. I hope to borrow them to see what's up. In the
> meantime I will pull the J-pole down and clean it up as suggested.
> There is considerable aluminum oxide on the outside of the parts so
> there may be some between the base and uprights. When I put it back up
> I will move it 180 degrees from it current location. That will only
> move it about 2' but who knows.
>
> --
> 'Captain' Kirk DeHaan
> N6SXR
>
> "Beam me up Scotty, there's no intelligent life here"

Hello Kirk,

Did you receive my PM with the path profile and propagation
prediction from RMW?

I now added clutter because of trees (I used 30m high trees with 80%
density). The predicted signal strength goes down from -76 dBm to -81
dBm (10W transmitters into 2 dBi antennes, your height 10m, repeater
heigth 30m).

Jeff (AE6KS) sent me a .kml file with the path profile from you to the
repeater on the hill, there is good agreement between the data I used
in RMW.

So before going to the paper/plywood production plant, you may search
for some other problem.

With kind regards,

Wim
PA3DJS
www.tetech.nl

1290. importing (modified) path profile data into Radio Mobile propagation prediction SW.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-29 21:19:08 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cae8eae2-7ce9-44ba-b1c9-278f99236de1@s2g2000yql.googlegroups.com>
Source record: 4741

Hello,

After 10 years I started again with Radio Mobile mapping and
propagation prediction program. One can export path profile data via
the "Radio Link" calculation pane. The result is a text file that you
can modify (to change the path profile).

Is there any possibility to import a modified path profile again, so
that a new propagation prediction simulation can be done

With kind regards,

Wim
PA3DJS
www.tetech.nl
when you remove abc, PM will reach me.

1291. Re: A3S with 40 meter add on kit

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-29 22:29:11 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <snh5u654800jt89mecov5q06v7sas49c0a@4ax.com>
Source record: 4742

On Sun, 29 May 2011 09:30:27 -0400, "D@LS" <helmsman@wowway.com/>
wrote:

>On Sat, 28 May 2011 20:47:09 -0400, W8CCW <Jferrell13@triad.rr.com> wrote:
>
>>On Mon, 23 May 2011 16:29:57 -0400, "D@LS" <helmsman@wowway.com/>
>>wrote:
>>
>>>Does the 40 meter addition change the 20 meter reflector beam to the center beam and the
reflector
>>>beam to 15 meters?
>>>
>>>I am assuming the A3S by itself works as the shortest beam is 10 meters the 15 meter
beam is the
>>>middle and the 20 meter as the longest?
>>>
>>>TIA
>>
>>The Cushcraft A3S beam has 3 elements. The driven element is setup to
>>be used as a rotatable dipole on 40 meters. It works a lot better than
>>it sounds.
>>
>>The spacing of the elements on the boom does not change.
>Thanks.
>
>Between the Rotor and the A3s/ and the Dipole getting it up to 40ft should be a real pain.
It is about the same size & weight as other multiband beams. The 40 M
add on seems pretty expensive but I do use it a lot.

Also, Mine is mounteds on a tilt-over, crank up from the late 1970's.
Two electric winches, no sweat for an old man.

Also, there is a Homebrew tilt mechanism...

You can check it out at
http://dixienc.us/TiltOverGadget/TiltOverGadget.htm

I have also found it useful on WARC bands simply by using a tuner.

1292. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-30 18:13:56 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <8b6052ff-e699-41c5-9040-75880e7e45ae@l2g2000prg.googlegroups.com>
Source record: 4743

Well I've worked with the center fed Lazy H antenna design on 10 meters for several few weeks now. I tried 1/2 wave spacing between the top and bottom elements, 5/8th wave spacing between the top and bottom elements, I put it up at 40 feet and 50 feet at the top wire, I tried different lengths of 450 ohm feed-line, and this antenna consistently under performs a 1/2 wave dipole cut for the same frequency. A simple 1/2 wave dipole consistently out performs the center fed version of Lazy H antenna even when the Lazy H is given a 20 foot height advantage over the lowly dipole. I even put up the Lazy H in two completely different locations over 180 miles apart. I also tried two completely different antenna tuners (Dentron MT-3000a and Drake MN-75 with the 4:1 balun installed). Out of over 200 A/B test the Lazy H antenna only out performed the dipole on one test with a station in Texas just before the propagation faded out for the day, The next day when the propagation was back I heard the same station on the same frequency and the dipole out performed the Lazy H for the rest of the day. I'm not sure what special propagation mode is required for the Lazy H to have some gain through some pin hole direction, but the version of the Lazy H center fed with 450 ohm ladder line back to the antenna tuner is a complete failure. I even re-built the antenna from scratch using a different piece 450 ladder line for the inter connecting piece. I also verified the length of each 1/2 wave section with a tape measure. I verified with an ohm meter that the top left element was connected to the bottom left element and the right top element was connected to the bottom right element. I verified there was no unexpected connectivity between the left and right elements, and I verified both sides of the ladder line were connected back to the antenna tuner. I made sure there was no twist in the ladder line connecting the top and bottom elements.
I would like to petition the ARRL to remove the center fed Lazy H from the antenna handbook as it clearly does not work as specified. A lowly mono band dipole on the same design frequency will consistently out perform the center feed Lazy H even when the Lazy H is given a 20 foot height advantage on10 meters.
Before any of you reply with charts and graphs from EZNEC software, turn off your computer, go out in the back yard, and actually build a center fed Lazy H antenna with 450 ladder line all the way back to the antenna tuner. Then do real world A/B comparisons with a plain old mono band dipole cut for the same frequency, and you will find I am telling the truth. The center fed Lazy H does not have any gain over a 1/2 wave dipole broadside to the antenna. None.

Here is what you will fine if you actually build the center fed Lazy H and compare it to a 1/2 wave mono band dipole cut for the same same frequency;

1) Your tuner will have to use extreme setting to match the Lazy H.
2) In some instances the tuner will not be able to match the Lazy H depending on the length of the ladder line feeding the antenna. You may have to increase or decrease the length of the ladder line feeding the Lazy H to get your antenna tuner to match it.
3) A 1/2 wave dipole will beat the Lazy H 99.99 percent of the time in it's favored direction even if the Lazy H is given a 20 foot height advantage over the dipole.
4) An extended double zepp with a 450 ohm matching section back to a 1:1 balun and then to 50 ohm coax cut for the same frequency and hung from the same ropes previously used to support the Lazy H will blow the Lazy H in the dirt.

In a nutshell, this antenna sucks!

Michael Rawls
KS4HY

1293. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-30 18:44:57 UTC
From: Baron <baron@linuxmaniac.net>
Message-ID: <is0oefcko2@dont-email.me>
Source record: 4744

Michael Inscribed thus:

>
> Well I've worked with the center fed Lazy H antenna design on 10
> meters for several few weeks now. I tried 1/2 wave spacing between
> the top and bottom elements, 5/8th wave spacing between the top and
> bottom elements, I put it up at 40 feet and 50 feet at the top wire, I
> tried different lengths of 450 ohm feed-line, and this antenna
> consistently under performs a 1/2 wave dipole cut for the same
> frequency. A simple 1/2 wave dipole consistently out performs the
> center fed version of Lazy H antenna even when the Lazy H is given a
> 20 foot height advantage over the lowly dipole. I even put up the Lazy
> H in two completely different locations over 180 miles apart. I also
> tried two completely different antenna tuners (Dentron MT-3000a and
> Drake MN-75 with the 4:1 balun installed). Out of over 200 A/B test
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> The next day when the propagation was back I heard the same station on
> the same frequency and the dipole out performed the Lazy H for the
> rest of the day. I'm not sure what special propagation mode is
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> line for the inter connecting piece. I also verified the length of
> each 1/2 wave section with a tape measure. I verified with an ohm
> meter that the top left element was connected to the bottom left
> element and the right top element was connected to the bottom right
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> Before any of you reply with charts and graphs from EZNEC software,
> turn off your computer, go out in the back yard, and actually build a
> center fed Lazy H antenna with 450 ladder line all the way back to the
> antenna tuner. Then do real world A/B comparisons with a plain old
> mono band dipole cut for the same frequency, and you will find I am
> telling the truth. The center fed Lazy H does not have any gain over

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> depending on the length of the ladder line feeding the antenna. You
> may have to increase or decrease the length of the ladder line feeding
> the Lazy H to get your antenna tuner to match it.
> 3) A 1/2 wave dipole will beat the Lazy H 99.99 percent of the time in
> it's favored direction even if the Lazy H is given a 20 foot height
> advantage over the dipole.
> 4) An extended double zepp with a 450 ohm matching section back to a
> 1:1 balun and then to 50 ohm coax cut for the same frequency and hung
> from the same ropes previously used to support the Lazy H will blow
> the Lazy H in the dirt.
>
> In a nutshell, this antenna sucks!
>
> Michael Rawls
> KS4HY

Tried mounting it horizontally ?

--
Best Regards:
Baron.

1294. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-30 21:48:45 UTC
From: walt <walt@w2du.com>
Message-ID: <2ce549b4-3275-49e6-9002-3823ef4a064e@c1g2000yqe.googlegroups.com>
Source record: 4745

On May 30, 2:44 pm, Baron <ba...@linuxmaniac.net> wrote:
> Michael Inscribed thus:
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> > the top and bottom elements, 5/8th wave spacing between the top and
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> > tried different lengths of 450 ohm feed-line, and this antenna
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> > frequency. A simple 1/2 wave dipole consistently out performs the
> > center fed version of Lazy H antenna even when the Lazy H is given a
> > 20 foot height advantage over the lowly dipole. I even put up the Lazy
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> > Drake MN-75 with the 4:1 balun installed). Out of over 200 A/B test
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> > The next day when the propagation was back I heard the same station on
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> > In a nutshell, this antenna sucks!
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> > Michael Rawls
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> Tried mounting it horizontally ?
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> Best Regards:
>   Baron.

Hi Michael,

I'm sorry to hear you think the lazy-H sucks. I used one on 20m years ago and it worked just fine--and no trouble in matching it with a tuner.

However, I have a suggestion: Let's say you space the upper and lower radiating elements by 180°, which is 1/2wl. If you now use 450-ohm window line, the velocity factor for the line attaching the two elements together makes the electrical length of the line greater than 1/2wl, which means the phasing between the upper and lower elements is

no longer correct, and therefore will not provide the expected gain. I'm not sure how much phasing error that will produce, but it's an issue you should consider. Correctly constructed, the lazy-H will definitely out perform a 1/2wl dipole, so if it doesn't for you there is sum ting definitely wong!

If you feed at the center of the line connecting the two radiating elements the phasing will be correct regardless of the velocity factor, because the length from the center feed point on the connecting line will be the same from that point to each radiating element. With this configuration of feeding don't put a twist in the connecting line--the two radiating elements MUST be fed IN PHASE! If they're fed out of phase the array will look like an Adcock direction-finding antenna, with a deep null in the radiation pattern in the broadside direction.

Just my thoughts,

Walt, W2DU

1295. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-30 23:25:22 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <DHVEp.24368$rv2.15596@en-nntp-12.dc1.easynews.com>
Source record: 4746

"Frank" <fmerriman@nycny.net> wrote in message
news:7e0b1fb0-ff14-4b63-9b3a-6db3cf777e66@c26g2000vbq.googlegroups.com...
>How many amateur radio operators use this kind of academic preening
>when they are putting up a dipole.

Not many, certainly... but I would offer that those who do are able to enjoy the hobby more thoroughly than those who don't. Whether or not that additional enjoyment makes up for the extra time needed for learning, well, that's up to each individuals.

I personally care about these things, and even for hams who think they don't... most all of them have probably thoughts to themselves, at one point or another, "Hey, what happens if you feed a dipole off-center?," and it's nice that someone else has already gone through the effort to figure it out such that the answers are readily Google-able! :-)

---Joel

1296. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 01:31:17 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <32c6384f-390a-448c-aaf3-87170a18b367@g12g2000yqd.googlegroups.com>
Source record: 4747

Thanks for your input Walt, but I already thought of those things.
I definitely made the antenna correctly. According to the ARRL
handbook when center feeding the Lazy H increasing the spacing beyond
1/2 wave makes the gain go up until the spacing reaches 5/8ths wave.
The handbooks states 5.9 dbd gain for 1/2 wave spacing and 6.7 dbd for
5/8ths wave spacing. In the real world this antenna does not have any
gain over a 1/2 wave dipole when center fed with 450 ohm ladder line
all the way back to the tuner. The phasing was correct. On 14 MHz
where it becomes two stacked dipoles the SWR comes down and the
performance goes up, but on 28 MHz it consistently lags behind a
dipole. I rebuilt this antenna twice. If you actually go to the
trouble of making one for 10 meters, and compare it to a real world 28
Mhz 1/2 wave dipole, the Lazy H will fall far short of the predicted
gain.
I have been a ham since 1986. I wondered why I had heard so few
hams using a Lazy H, and the one time I recalled hearing one the
signal was weaker than the other hams using a dipole. I assumed at
the time that I must have been off the side of the other ham's Lazy H,
but after my real world test who knows.
I'm going to remove the center feed from the antenna this week, and
rework the Lazy H for end feed with a twist, a matching stub, and 1/2
wave spacing. Hopefully the end fed version of the Lazy H will live
up to it's text book gain. I'd really like to have that 6 dbd gain
along with the nulls off the sides,

Michael Rawls
KS4HY

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> > > In a nutshell, this antenna sucks!
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> > Tried mounting it horizontally ?
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> Hi Michael,
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> ago and it worked just fine--and no trouble in matching it with a
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> However, I have a suggestion: Let's say you space the upper and lower
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> broadside direction.
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> Just my thoughts,
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> Walt, W2DU

1297. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 02:37:01 UTC
From: walt <walt@w2du.com>
Message-ID: <c9072e6a-3ec2-427b-a98a-0a0f0e3cbb2f@m10g2000yqd.googlegroups.com>
Source record: 4748

On May 30, 9:31 pm, Michael <goo...@shadowstorm.com> wrote:
> Thanks for your input Walt, but I already thought of those things.
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> gain over a 1/2 wave dipole when center fed with 450 ohm ladder line
> all the way back to the tuner. The phasing was correct. On 14 MHz
> where it becomes two stacked dipoles the SWR comes down and the
> performance goes up, but on 28 MHz it consistently lags behind a
> dipole. I rebuilt this antenna twice. If you actually go to the
> trouble of making one for 10 meters, and compare it to a real world 28
> Mhz 1/2 wave dipole, the Lazy H will fall far short of the predicted
> gain.
> I have been a ham since 1986. I wondered why I had heard so few
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One other thought, Michael, is that if you made the lazy-H with 1/2wl spacing for 20m and then use it on 10m, the spacing is now 1wl. I haven't seen any figures for that spacing, but isn't it possible that with that spacing the gain might not be what you expect? Especially if it works properly on 20m?

Walt

1298. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 02:56:48 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <8385947c-7e94-4d40-b002-fbfc443fcc65@p13g2000yqh.googlegroups.com>
Source record: 4749

On May 30, 10:37 pm, walt <w...@w2du.com> wrote:
> On May 30, 9:31 pm, Michael <goo...@shadowstorm.com> wrote:
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> > > > Michael Inscribed thus:
>
> > > > > Well I've worked with the center fed Lazy H antenna design on 10
> > > > > meters for several few weeks now. I tried 1/2 wave spacing between
> > > > > the top and bottom elements, 5/8th wave spacing between the top and
> > > > > bottom elements, I put it up at 40 feet and 50 feet at the top wire, I

> > > > > tried different lengths of 450 ohm feed-line, and this antenna
> > > > > consistently under performs a 1/2 wave dipole cut for the same
> > > > > frequency. A simple 1/2 wave dipole consistently out performs the
> > > > > center fed version of Lazy H antenna even when the Lazy H is given a
> > > > > 20 foot height advantage over the lowly dipole. I even put up the Lazy
> > > > > H in two completely different locations over 180 miles apart. I also
> > > > > tried two completely different antenna tuners (Dentron MT-3000a and
> > > > > Drake MN-75 with the 4:1 balun installed). Out of over 200 A/B test
> > > > > the Lazy H antenna only out performed the dipole on one test with a
> > > > > station in Texas just before the propagation faded out for the day,
> > > > > The next day when the propagation was back I heard the same station on
> > > > > the same frequency and the dipole out performed the Lazy H for the
> > > > > rest of the day.   I'm not sure what special propagation mode is
> > > > > required for the Lazy H to have some gain through some pin hole
> > > > > direction, but the version of the Lazy H center fed with 450 ohm
> > > > > ladder line back to the antenna tuner is a complete failure. I even
> > > > > re-built the antenna from scratch using a different piece 450 ladder
> > > > > line for the inter connecting piece. I also verified the length of
> > > > > each 1/2 wave section with a tape measure. I verified with an ohm
> > > > > meter that the top left element was connected to the bottom left
> > > > > element and the right top element was connected to the bottom right
> > > > > element. I verified there was no unexpected connectivity between the
> > > > > left and right elements, and I verified both sides of the ladder line
> > > > > were connected back to the antenna tuner. I made sure there was no
> > > > > twist in the ladder line connecting the top and bottom elements.
> > > > >   I would like to petition the ARRL to remove the center fed Lazy H
> > > > > from the antenna handbook as it clearly does not work as specified. A
> > > > > lowly mono band dipole on the same design frequency will consistently
> > > > > out perform the center feed Lazy H even when the Lazy H is given a 20
> > > > > foot height advantage on10 meters.
> > > > >   Before any of you reply with charts and graphs from EZNEC software,
> > > > > turn off your computer, go out in the back yard, and actually build a
> > > > > center fed Lazy H antenna with 450 ladder line all the way back to the
> > > > > antenna tuner. Then do real world A/B comparisons with a plain old
> > > > > mono band dipole cut for the same frequency, and you will find I am
> > > > > telling the truth. The center fed Lazy H does not have any gain over
> > > > > a 1/2 wave dipole broadside to the antenna. None.
>
> > > > > Here is what you will fine if you actually build the center fed Lazy H
> > > > > and compare it to a 1/2 wave mono band dipole cut for the same same
> > > > > frequency;
>
> > > > > 1) Your tuner will have to use extreme setting to match the Lazy H.
> > > > > 2) In some instances the tuner will not be able to match the Lazy H
> > > > > depending on the length of the ladder line feeding the antenna. You
> > > > > may have to increase or decrease the length of the ladder line feeding
> > > > > the Lazy H to get your antenna tuner to match it.
> > > > > 3) A 1/2 wave dipole will beat the Lazy H 99.99 percent of the time in
> > > > > it's favored direction even if the Lazy H is given a 20 foot height
> > > > > advantage over the dipole.

> > > > > 4) An extended double zepp with a 450 ohm matching section back to a
> > > > > 1:1 balun and then to 50 ohm coax cut for the same frequency and hung
> > > > > from the same ropes previously used to support the Lazy H will blow
> > > > > the Lazy H in the dirt.
>
> > > > > In a nutshell, this antenna sucks!
>
> > > > > Michael Rawls
> > > > > KS4HY
>
> > > > Tried mounting it horizontally ?
>
> > > > --
> > > > Best Regards:
> > > >   Baron.
>
> > > Hi Michael,
>
> > > I'm sorry to hear you think the lazy-H sucks. I used one on 20m years
> > > ago and it worked just fine--and no trouble in matching it with a
> > > tuner.
>
> > > However, I have a suggestion: Let's say you space the upper and lower
> > > radiating elements by 180°, which is 1/2wl. If you now use 450-ohm
> > > window line, the velocity factor for the line attaching the two
> > > elements together makes the electrical length of the line greater than
> > > 1/2wl, which means the phasing between the upper and lower elements is
> > > no longer correct, and therefore will not provide the expected gain.
> > > I'm not sure how much phasing error that will produce, but it's an
> > > issue you should consider. Correctly constructed, the lazy-H will
> > > definitely out perform a 1/2wl dipole, so if it doesn't for you there
> > > is sum ting definitely wong!
>
> > > If you feed at the center of the line connecting the two radiating
> > > elements the phasing will be correct regardless of the velocity
> > > factor, because the length from the center feed point on the
> > > connecting line will be the same from that point to each radiating
> > > element. With this configuration of feeding don't put a twist in the
> > > connecting line--the two radiating elements MUST be fed IN PHASE! If
> > > they're fed out of phase the array will look like an Adcock direction-
> > > finding antenna, with a deep null in the radiation pattern in the
> > > broadside direction.
>
> > > Just my thoughts,
>
> > > Walt, W2DU
>
> One other thought, Michael, is that if you made the lazy-H with 1/2wl
> spacing for 20m and then use it on 10m, the spacing is now 1wl. I
> haven't seen any figures for that spacing, but isn't it possible that

> with that spacing the gain might not be what you expect? Especially if
> it works properly on 20m?
>
> Walt

Hi Walt,
I initially made the Lazy H for 5/8th wave spacing on 10 meters.
When that did not work I reduced the spacing to 1/2 wave spacing on 10
meters. The 4 half wave elements are 1/2 waves on 10 meters. The
antenna design is really pretty simple. I did make some contacts with
this antenna and I received some good reports, but the dipole
consistently out performed the Lazy H, There was one contact in
Bermuda that said the Lazy H put in a stronger signal from South
Carolina, but there was alot of fading at the time. Even when the
Bermuda contact said the Lazy H put in the stronger signal the dipole
was receiving the stronger signal from Bermuda.

Michael

1299. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 02:57:40 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <ObOdnRRE2668xHnQnZ2dnUVZ_hqdnZ2d@earthlink.com>
Source record: 4750

"Baron" <baron@linuxmaniac.net> wrote in message
news:is0oefcko2@dont-email.me...
> Michael Inscribed thus:
>
>>
>
> Tried mounting it horizontally ?
>
> --
> Best Regards:
> Baron.

I looked at that antenna in a handbook years ago. Could not tell from that how it is mounted. Do you mount the elements one over the top of the other, or do you mount them sideways like a 2 element horizontal beam ?

1300. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 14:14:18 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <6e49e5f1-57d9-4572-bfcc-a09259de2131@gh5g2000vbb.googlegroups.com>
Source record: 4801

```
On May 30, 10:57 pm, "Ralph Mowery" <rmowery28...@earthlink.net>
wrote:
> "Baron" <ba...@linuxmaniac.net> wrote in message
>
> news:is0oef$cko$2@dont-email.me...
>
> > Michael Inscribed thus:
>
> > Tried mounting it horizontally ?
>
> > --
> > Best Regards:
> >                          Baron.
>
> I looked at that antenna in a handbook years ago.  Could not tell from that
> how it is mounted.  Do you mount the elements one over the top of the other,
> or do you mount them sideways like a 2 element horizontal beam ?

Yes. It is mounted horizontally.
```

1301. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 15:07:52 UTC
From: Wond <jetodd@bcsuperNOTnet.com>
Message-ID: <is3087$v2l$1@dont-email.me>
Source record: 4802

I sort of think also, the Lazy H (think colinear?) should be fed and phased with 75 ohm line.

On Mon, 30 May 2011 14:48:45 -0700, walt wrote:

If you feed at the center of the line connecting the two radiating elements the phasing will be correct regardless of the velocity factor, because the length from the center feed point on the connecting line will be the same from that point to each radiating element. With this configuration of feeding don't put a twist in the connecting line--the two radiating elements MUST be fed IN PHASE! If they're fed out of phase the array will look like an Adcock direction-finding antenna, with a deep null in the radiation pattern in the broadside direction.

Just my thoughts,

Walt, W2DU

1302. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 16:44:48 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <is35u0$j11$1@news.jpl.nasa.gov>
Source record: 4803

On 5/28/2011 2:25 PM, Frank wrote:

>
> How many amateur radio operators use this kind of academic preening
> when they are putting up a dipole.
>
> Too much hand-waving here to be useful to most folks.

People who are running NEC models, particularly NEC2 as opposed to NEC4, tend to be interested in this kind of thing.

While building antennas and running them up the flagpole/tower/tree to test is fun and enjoyable, you can save a whole bunch of time with some modeling ahead of time (and besides, sometimes the weather isn't good for antenna building/testing)

1303. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 16:47:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <is3639$j11$2@news.jpl.nasa.gov>
Source record: 4804

On 5/30/2011 4:25 PM, Joel Koltner wrote:
> "Frank" <fmerriman@nycny.net> wrote in message
> news:7e0b1fb0-ff14-4b63-9b3a-6db3cf777e66@c26g2000vbq.googlegroups.com...
>> How many amateur radio operators use this kind of academic preening
>> when they are putting up a dipole.
>
> Not many, certainly... but I would offer that those who do are able to
> enjoy the hobby more thoroughly than those who don't. Whether or not
> that additional enjoyment makes up for the extra time needed for
> learning, well, that's up to each individuals.
>
> I personally care about these things, and even for hams who think they
> don't... most all of them have probably thoughts to themselves, at one
> point or another, "Hey, what happens if you feed a dipole off-center?,"
> and it's nice that someone else has already gone through the effort to
> figure it out such that the answers are readily Google-able! :-)
>

And there's a whole raft of "off center fed" dipoles of one sort or another out there, particularly for multiband applications, so it's nice to understand that what's really going on is that the feedpoint impedance you see is basically the same as feeding at the center, but run through a "transformer".

A bit of theory helps one evaluate all the "secret recipe worked 1000 countries on top band with 1 Watt and a 3 foot long antenna" stories too.

1304. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 17:07:01 UTC
From: walt <walt@w2du.com>
Message-ID: <b3c278df-22cb-46b0-8d31-2ba9de6dda68@b1g2000yql.googlegroups.com>
Source record: 4805

On May 31, 11:07 am, Wond <jet...@bcsuperNOTnet.com> wrote:
> I sort of think also, the Lazy H (think colinear?) should be fed and
> phased with 75 ohm line.
>
> On Mon, 30 May 2011 14:48:45 -0700, walt wrote:
>
> If you feed at the center of the line connecting the two radiating
> elements the phasing will be correct regardless of the velocity
> factor, because the length from the center feed point on the
> connecting line will be the same from that point to each radiating
> element. With this configuration of feeding don't put a twist in the
> connecting line--the two radiating elements MUST be fed IN PHASE! If
> they're fed out of phase the array will look like an Adcock direction-
> finding antenna, with a deep null in the radiation pattern in the
> broadside direction.
>
> Just my thoughts,
>
> Walt, W2DU

Another point to consider, Mark, is that the azimuth beam width is
narrower with the lazy-H than that of the dipole. So perhaps the
apparent lower signal level is in directions off the side of the
radiation pattern, where one would expect the signal level to be lower
than that of the dipole at the same angle.

Walt

1305. Re: WiFi Antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 18:39:25 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF68AED148F8notnowneverorg@127.0.0.1>
Source record: 4806

--snip2save---------------
I couldn't agree more if I had to. I always whent my own way
with building a BIGGER antenna. Never conciously cared about
subjective law makers frowning on the intellect getting ahead.
Through the use of an antenna. Now why I have a guilty
concious about buying an illeagle linier amp for my cell phone
or wifi? I don't know, always agreed to the morals behind
power limits, but never will concider a better antenna as
"More Power", it's just making better use of the power you
have wich shouldn't even be counted. Come get me and my Big
Dish WiFi setup, Watch out for the Pit Bulls, there are 3 of
them, One of them has AIDS, you guess witch one.
>>
>
> They should just worry about the input power to the
> antenna. So what if I take radiation off the floor and
> ceiling to make it go a little farther sideways? So what
> if I have a narrow beam in only one direction? It reduces
> congestion in the directions it's not pointed in.
>
> I can understand the restriction for FM Modulators or IFB
> transmitters, but for a device that shares a band with
> microwave ovens I think the FCC better have a hundred
> higher priorities.
>

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "

1306. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 18:52:05 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <8pdau61nvekqf6l5bmm7h2m18spfrb4l67@4ax.com>
Source record: 4807

On Sat, 28 May 2011 14:25:47 -0700 (PDT), Frank <fmerriman@nycny.net>
wrote:

>How many amateur radio operators use this kind of academic preening
>when they are putting up a dipole.

Me, me, me. Even the simplest antenna is influenced by nearby
structures, towers, poles, elevation, guy wires, position of coax
feed, chain link fences, and grounding system. That makes a simple
dipole not very simple. I've helped a few local hams model their
houses allowing prediction of takeoff angles, mysterious nulls,
optimum height, and cut length. While modeling (I use 4NEC2) does
take some learning and understanding, it does offer an improvment over
the tradition ham radio cut-n-try.

>Too much hand-waving here to be useful to most folks.

Speak for yourself please. I like postings that are over my knowledge
level so that I learn something new. It's also nice to know *WHY*
things work, or don't. Learn by Destroying(tm).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1307. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 18:58:53 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <48136f1a-9212-4f19-8711-be62cd026444@z7g2000prh.googlegroups.com>
Source record: 4808

On May 31, 9:47 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> On 5/30/2011 4:25 PM, Joel Koltner wrote:
>
>
>
> > "Frank" <fmerri...@nycny.net> wrote in message
> >news:7e0b1fb0-ff14-4b63-9b3a-6db3cf777e66@c26g2000vbq.googlegroups.com...
> >> How many amateur radio operators use this kind of academic preening
> >> when they are putting up a dipole.
>
> > Not many, certainly... but I would offer that those who do are able to
> > enjoy the hobby more thoroughly than those who don't. Whether or not
> > that additional enjoyment makes up for the extra time needed for
> > learning, well, that's up to each individuals.
>
> > I personally care about these things, and even for hams who think they
> > don't... most all of them have probably thoughts to themselves, at one
> > point or another, "Hey, what happens if you feed a dipole off-center?,"
> > and it's nice that someone else has already gone through the effort to
> > figure it out such that the answers are readily Google-able! :-)
>
> And there's a whole raft of "off center fed" dipoles of one sort or
> another out there, particularly for multiband applications, so it's nice
> to understand that what's really going on is that the feedpoint
> impedance you see is basically the same as feeding at the center, but
> run through a "transformer".

Or another way to think about it (perhaps closer to what's going on)
is that it's like changing the position of a tap on a resonant tank
circuit. If you get into building RF filters using coupled
resonators, you'll appreciate that changing the tap position on the
input and output resonators changes the filter's operating impedance,
as seen at the input and output, though just as in the off-center fed
antenna, the current distribution in the resonator (or antenna)
changes relatively little. For the case of the antenna, of course,
you have to decouple the transmission line very carefully if you feed
it off-center -- or else just allow for the fact that there _will_ be
antenna currents on the transmission line e.g. an end-fed half-wave).
>
> A bit of theory helps one evaluate all the "secret recipe worked 1000
> countries on top band with 1 Watt and a 3 foot long antenna" stories too.

;-)

Cheers,
Tom

1308. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 20:35:31 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is3jel$em6$1@dont-email.me>
Source record: 4809

On 5/31/2011 1:52 PM, Jeff Liebermann wrote:
> On Sat, 28 May 2011 14:25:47 -0700 (PDT), Frank<fmerriman@nycny.net>
> wrote:
>
>> How many amateur radio operators use this kind of academic preening
>> when they are putting up a dipole.
>
> Me, me, me. Even the simplest antenna is influenced by nearby
> structures, towers, poles, elevation, guy wires, position of coax
> feed, chain link fences, and grounding system. That makes a simple
> dipole not very simple. I've helped a few local hams model their
> houses allowing prediction of takeoff angles, mysterious nulls,
> optimum height, and cut length. While modeling (I use 4NEC2) does
> take some learning and understanding, it does offer an improvment over
> the tradition ham radio cut-n-try.
>
>> Too much hand-waving here to be useful to most folks.
>
> Speak for yourself please. I like postings that are over my knowledge
> level so that I learn something new. It's also nice to know *WHY*
> things work, or don't. Learn by Destroying(tm).
>

I agree, Jeff.

I like antennas that are naturally short-circuited by design and can be grounded, making the feed point essentially grounded for DC and lower frequencies. One such antenna is the folded unipole. Its only problem is that the feedpoint resistance is about 120 or so ohms.

So, I had this idea. The usual monopole (or ground plane) has about 30-35 ohms resistance. To get 50 ohms it is common practice to droop the radials about 45 degrees. Since that raises the feedpoint resistance, would raising the radials lower the feedpoint resistance of the folded unipole and, if so, what effect would it have on the pattern?

EZNEC said to raise the radials of the folded unipole about 23 or so degrees to get 50 ohms and the pattern would not be affected.

So I built one and it works swimmingly. I had to make some minor adjustments in element lengths but that was fairly easy with the vector voltmeter. Hooray for modeling.

Cheers,
John - KD5YI

1309. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 21:26:52 UTC
From: dplatt@radagast.org
Message-ID: <s13gb8-127.ln1@radagast.org>
Source record: 4811

In article <is3jel$em6$1@dont-email.me>, John S <sophi.2@invalid.org> wrote:

>So, I had this idea. The usual monopole (or ground plane) has about
>30-35 ohms resistance. To get 50 ohms it is common practice to droop the
>radials about 45 degrees. Since that raises the feedpoint resistance,
>would raising the radials lower the feedpoint resistance of the folded
>unipole and, if so, what effect would it have on the pattern?
>
>EZNEC said to raise the radials of the folded unipole about 23 or so
>degrees to get 50 ohms and the pattern would not be affected.
>
>So I built one and it works swimmingly. I had to make some minor
>adjustments in element lengths but that was fairly easy with the vector
>voltmeter. Hooray for modeling.

Slick... and I bet that the appearance of it raises the occasional
question and/or eyebrow!

The matching approach I've usually seen for folded monopoles, is to
use a quarter-wave transformer made out of (e.g.) RG-6 or another
75-ohm coax... this brings the impedance down to something not too far
from 50 ohms. Your method avoids the need for this.

If I were to build one I think I'd stick a fat cap over the end of
each raised radial... just to reassure myself that I wasn't setting up
an "automated pigeon-skewering device" of sorts :-)

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1310. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 22:04:29 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <4fb829c0-79a2-44a7-a535-b1ef4bcfd773@y12g2000yqh.googlegroups.com>
Source record: 4810

On May 31, 1:35 pm, John S <soph...@invalid.org> wrote:
> On 5/31/2011 1:52 PM, Jeff Liebermann wrote:
>
>
>
> > On Sat, 28 May 2011 14:25:47 -0700 (PDT), Frank<fmerri...@nycny.net>
> > wrote:
>
> >> How many amateur radio operators use this kind of academic preening
> >> when they are putting up a dipole.
>
> > Me, me, me. Even the simplest antenna is influenced by nearby
> > structures, towers, poles, elevation, guy wires, position of coax
> > feed, chain link fences, and grounding system. That makes a simple
> > dipole not very simple. I've helped a few local hams model their
> > houses allowing prediction of takeoff angles, mysterious nulls,
> > optimum height, and cut length. While modeling (I use 4NEC2) does
> > take some learning and understanding, it does offer an improvment over
> > the tradition ham radio cut-n-try.
>
> >> Too much hand-waving here to be useful to most folks.
>
> > Speak for yourself please. I like postings that are over my knowledge
> > level so that I learn something new. It's also nice to know *WHY*
> > things work, or don't. Learn by Destroying(tm).
>
> I agree, Jeff.
>
> I like antennas that are naturally short-circuited by design and can be
> grounded, making the feed point essentially grounded for DC and lower
> frequencies. One such antenna is the folded unipole. Its only problem is
> that the feedpoint resistance is about 120 or so ohms.
>
> So, I had this idea. The usual monopole (or ground plane) has about
> 30-35 ohms resistance. To get 50 ohms it is common practice to droop the
> radials about 45 degrees. Since that raises the feedpoint resistance,
> would raising the radials lower the feedpoint resistance of the folded
> unipole and, if so, what effect would it have on the pattern?
>
> EZNEC said to raise the radials of the folded unipole about 23 or so
> degrees to get 50 ohms and the pattern would not be affected.
>
> So I built one and it works swimmingly. I had to make some minor
> adjustments in element lengths but that was fairly easy with the vector

> voltmeter. Hooray for modeling.
>
> Cheers,
> John - KD5YI

Hooray also for using your head, John, and realizing that raising the radials would _probably_ have that effect -- then having that verified by a model, and then by an antenna that works well for you in practice.

Another way that should work: make the two parallel conductors different diameters, with the correct spacing. You might also try making a self-supporting grounded quarter wave, resonant with its radials, and fed with a parallel conductor that doesn't go all the way to the top of the quarter wave...

So there are three different arrangements, perhaps with pretty similar electrical characteristics, and you can then pick among them for the one that suits your construction practices the best. Perhaps there are some more "grounded" monopole designs you throw into the mix.

Yes, if you're "just throwing up a dipole," maybe you don't worry about things like this, but there are those of us who like to think a bit deeper about things. I can only hope I remain infinitely tolerant of those who like to think much deeper than I about many things.

Cheers,
Tom

1311. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 22:12:14 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is3p42$n74$1@dont-email.me>
Source record: 4812

On 5/31/2011 4:26 PM, Dave Platt wrote:
> In article<is3jel$em6$1@dont-email.me>, John S<sophi.2@invalid.org> wrote:
>
>> So, I had this idea. The usual monopole (or ground plane) has about
>> 30-35 ohms resistance. To get 50 ohms it is common practice to droop the
>> radials about 45 degrees. Since that raises the feedpoint resistance,
>> would raising the radials lower the feedpoint resistance of the folded
>> unipole and, if so, what effect would it have on the pattern?
>>
>> EZNEC said to raise the radials of the folded unipole about 23 or so
>> degrees to get 50 ohms and the pattern would not be affected.
>>
>> So I built one and it works swimmingly. I had to make some minor
>> adjustments in element lengths but that was fairly easy with the vector
>> voltmeter. Hooray for modeling.
>
> Slick... and I bet that the appearance of it raises the occasional
> question and/or eyebrow!

I use it at home. Nobody in the area knows enough to even blink an eye.

> The matching approach I've usually seen for folded monopoles, is to
> use a quarter-wave transformer made out of (e.g.) RG-6 or another
> 75-ohm coax... this brings the impedance down to something not too far
> from 50 ohms. Your method avoids the need for this.

I am aware of that method. I think the challenge for me was to have it
all inherent.

> If I were to build one I think I'd stick a fat cap over the end of
> each raised radial... just to reassure myself that I wasn't setting up
> an "automated pigeon-skewering device" of sorts :-)
>

Hmmmm. I didn't think of that.

1312. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 22:40:33 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is3qp4il1@dont-email.me>
Source record: 4813

On 5/31/2011 5:04 PM, K7ITM wrote:
> On May 31, 1:35 pm, John S<soph...@invalid.org> wrote:
>> On 5/31/2011 1:52 PM, Jeff Liebermann wrote:
>>
>>
>>
>>> On Sat, 28 May 2011 14:25:47 -0700 (PDT), Frank<fmerri...@nycny.net>
>>> wrote:
>>
>>>> How many amateur radio operators use this kind of academic preening
>>>> when they are putting up a dipole.
>>
>>> Me, me, me. Even the simplest antenna is influenced by nearby
>>> structures, towers, poles, elevation, guy wires, position of coax
>>> feed, chain link fences, and grounding system. That makes a simple
>>> dipole not very simple. I've helped a few local hams model their
>>> houses allowing prediction of takeoff angles, mysterious nulls,
>>> optimum height, and cut length. While modeling (I use 4NEC2) does
>>> take some learning and understanding, it does offer an improvment over
>>> the tradition ham radio cut-n-try.
>>
>>>> Too much hand-waving here to be useful to most folks.
>>
>>> Speak for yourself please. I like postings that are over my knowledge
>>> level so that I learn something new. It's also nice to know *WHY*
>>> things work, or don't. Learn by Destroying(tm).
>>
>> I agree, Jeff.
>>
>> I like antennas that are naturally short-circuited by design and can be
>> grounded, making the feed point essentially grounded for DC and lower
>> frequencies. One such antenna is the folded unipole. Its only problem is
>> that the feedpoint resistance is about 120 or so ohms.
>>
>> So, I had this idea. The usual monopole (or ground plane) has about
>> 30-35 ohms resistance. To get 50 ohms it is common practice to droop the
>> radials about 45 degrees. Since that raises the feedpoint resistance,
>> would raising the radials lower the feedpoint resistance of the folded
>> unipole and, if so, what effect would it have on the pattern?
>>
>> EZNEC said to raise the radials of the folded unipole about 23 or so
>> degrees to get 50 ohms and the pattern would not be affected.
>>
>> So I built one and it works swimmingly. I had to make some minor

>> adjustments in element lengths but that was fairly easy with the vector
>> voltmeter. Hooray for modeling.
>>
>> Cheers,
>> John - KD5YI
>
> Hooray also for using your head, John, and realizing that raising the
> radials would _probably_ have that effect -- then having that verified
> by a model, and then by an antenna that works well for you in
> practice.

As a matter of fact, I can see where just jumping into it without the benefit of modeling would probably have resulted in giving up on it. I had to adjust many things (such as radial tilt) before I learned about how things were going to be affected. Modeling is like having an antenna breadboard but a whole lot less work.

> Another way that should work: make the two parallel conductors
> different diameters, with the correct spacing. You might also try
> making a self-supporting grounded quarter wave, resonant with its
> radials, and fed with a parallel conductor that doesn't go all the way
> to the top of the quarter wave...

I looked at those (EZNEC) years a go and was never satisfied. I have learned much more now, so I might benefit from another look.

> So there are three different arrangements, perhaps with pretty similar
> electrical characteristics, and you can then pick among them for the
> one that suits your construction practices the best. Perhaps there
> are some more "grounded" monopole designs you throw into the mix.
>
> Yes, if you're "just throwing up a dipole," maybe you don't worry
> about things like this, but there are those of us who like to think a
> bit deeper about things. I can only hope I remain infinitely tolerant
> of those who like to think much deeper than I about many things.
>
> Cheers,
> Tom

C'mon, Tom. You're a very knowledgeable person and I value your input. That's plenty deep.

By the way, I used Walt's inherent balun to make a diamond-shaped antenna which needs no additional balun. It is 50 ohms at the feedpoint. It, too is inherently short-circuited and, with the inherent balun, probably groundable.

It was an interesting exercise that went like this:

1. I like a loop for the inherent short-circuit.
2. It has about 100-120 ohms terminal resistance. I want 50 ohms.
3. It needs a balun. But, I don't really want one.

A folded dipole is about 300 ohms. A half-wave shorted transmission line is about 0 ohms. So, if you take a shorted half-wave transmission line and spread the wires apart at the 1/4W point all the way to where it becomes a folded dipole, it seems to me that the terminal resistance will go from zero to 300 ohms and 50 ohms is in there somewhere.

I tried it in EZNEC and found that to be the case. I found that, if the acute angle of the rhombus is about 51.5 degrees, then the terminal resistance is about 50 ohms (adjust perimeter along with angle to get 50+j0).

Ok, fine. That takes care of everything but the balun. In Walt's Reflections III, he discusses the half-turn bifilar loop (page 22-10). But what was intriguing was the inherent balun. Aha!

So, after modeling as well as I knew how, I constructed a rhombus (diamond-shaped) antenna with the right half of the diamond being coax (inherent balun) and the left half of the diamond being 14 ga wire.

The velocity factor of the coax means that its electrical length is about .6 of a half wave (or .3 lambda) where I wanted 1/4W, but it is close enough. I have not been able to measure current on the outside of the coax, but it may be because I have not yet created a sufficiently sensitive probing method.

I've not yet installed it. Maybe in the next few months I can get to it.

Cheers,
John - KD5YI

1313. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 22:46:37 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is3r4h$3fj$1@dont-email.me>
Source record: 4814

On 5/31/2011 5:40 PM, John S wrote:

> A folded dipole is about 300 ohms. A half-wave shorted transmission line
> is about 0 ohms. So, if you take a shorted half-wave transmission line
> and spread the wires apart at the 1/4W point all the way to where it
> becomes a folded dipole, it seems to me that the terminal resistance
> will go from zero to 300 ohms and 50 ohms is in there somewhere.
>
> I tried it in EZNEC and found that to be the case. I found that, if the
> acute angle of the rhombus is about 51.5 degrees, then the terminal
> resistance is about 50 ohms (adjust perimeter along with angle to get
> 50+j0).

As an aside, I found it time consuming to adjust angles and repeat the source impedance test in EZNEC. So, I created an Excel spreadsheet where I could simply input the perimeter, the acute angle, height above ground, wire gauges, and number of segments and wrote a short VBA to gather the spreadsheet results and create an EZNEC importable file.

Man, what a time saver.

73,
John

1314. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 22:59:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <is3rsp$pt0$1@news.jpl.nasa.gov>
Source record: 4815

On 5/31/2011 3:40 PM, John S wrote:
> On 5/31/2011 5:04 PM, K7ITM wrote:
>> On May 31, 1:35 pm, John S<soph...@invalid.org> wrote:
>>> On 5/31/2011 1:52 PM, Jeff Liebermann wrote:
>>>
>>>
>>>
>>>> On Sat, 28 May 2011 14:25:47 -0700 (PDT), Frank<fmerri...@nycny.net>
>>>> wrote:
>>>
>>>>> How many amateur radio operators use this kind of academic preening
>>>>> when they are putting up a dipole.
>>>
>>>> Me, me, me. Even the simplest antenna is influenced by nearby
>>>> structures, towers, poles, elevation, guy wires, position of coax
>>>> feed, chain link fences, and grounding system. That makes a simple
>>>> dipole not very simple. I've helped a few local hams model their
>>>> houses allowing prediction of takeoff angles, mysterious nulls,
>>>> optimum height, and cut length. While modeling (I use 4NEC2) does
>>>> take some learning and understanding, it does offer an improvment over
>>>> the tradition ham radio cut-n-try.
>>>
>>>>> Too much hand-waving here to be useful to most folks.
>>>
>>>> Speak for yourself please. I like postings that are over my knowledge
>>>> level so that I learn something new. It's also nice to know *WHY*
>>>> things work, or don't. Learn by Destroying(tm).
>>>
>>> I agree, Jeff.
>>>
>>> I like antennas that are naturally short-circuited by design and can be
>>> grounded, making the feed point essentially grounded for DC and lower
>>> frequencies. One such antenna is the folded unipole. Its only problem is
>>> that the feedpoint resistance is about 120 or so ohms.
>>>
>>> So, I had this idea. The usual monopole (or ground plane) has about
>>> 30-35 ohms resistance. To get 50 ohms it is common practice to droop the
>>> radials about 45 degrees. Since that raises the feedpoint resistance,
>>> would raising the radials lower the feedpoint resistance of the folded
>>> unipole and, if so, what effect would it have on the pattern?
>>>
>>> EZNEC said to raise the radials of the folded unipole about 23 or so
>>> degrees to get 50 ohms and the pattern would not be affected.
>>>

>>> So I built one and it works swimmingly. I had to make some minor
>>> adjustments in element lengths but that was fairly easy with the vector
>>> voltmeter. Hooray for modeling.
>>>
>>> Cheers,
>>> John - KD5YI
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>> Hooray also for using your head, John, and realizing that raising the
>> radials would _probably_ have that effect -- then having that verified
>> by a model, and then by an antenna that works well for you in
>> practice.
>
> As a matter of fact, I can see where just jumping into it without the
> benefit of modeling would probably have resulted in giving up on it. I
> had to adjust many things (such as radial tilt) before I learned about
> how things were going to be affected. Modeling is like having an antenna
> breadboard but a whole lot less work.
>
>> Another way that should work: make the two parallel conductors
>> different diameters, with the correct spacing. You might also try
>> making a self-supporting grounded quarter wave, resonant with its
>> radials, and fed with a parallel conductor that doesn't go all the way
>> to the top of the quarter wave...
>
> I looked at those (EZNEC) years a go and was never satisfied. I have
> learned much more now, so I might benefit from another look.
>
>> So there are three different arrangements, perhaps with pretty similar
>> electrical characteristics, and you can then pick among them for the
>> one that suits your construction practices the best. Perhaps there
>> are some more "grounded" monopole designs you throw into the mix.
>>
>> Yes, if you're "just throwing up a dipole," maybe you don't worry
>> about things like this, but there are those of us who like to think a
>> bit deeper about things. I can only hope I remain infinitely tolerant
>> of those who like to think much deeper than I about many things.
>>
>> Cheers,
>> Tom
>
> C'mon, Tom. You're a very knowledgeable person and I value your input.
> That's plenty deep.
>
> By the way, I used Walt's inherent balun to make a diamond-shaped
> antenna which needs no additional balun. It is 50 ohms at the feedpoint.
> It, too is inherently short-circuited and, with the inherent balun,
> probably groundable.
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> It was an interesting exercise that went like this:
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> will go from zero to 300 ohms and 50 ohms is in there somewhere.
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> acute angle of the rhombus is about 51.5 degrees, then the terminal
> resistance is about 50 ohms (adjust perimeter along with angle to get
> 50+j0).
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> Ok, fine. That takes care of everything but the balun. In Walt's
> Reflections III, he discusses the half-turn bifilar loop (page 22-10).
> But what was intriguing was the inherent balun. Aha!
>
> So, after modeling as well as I knew how, I constructed a rhombus
> (diamond-shaped) antenna with the right half of the diamond being coax
> (inherent balun) and the left half of the diamond being 14 ga wire.
>
>

Are you feeding this with coax? Why not use a big choke at the
feedpoint on the outside of the coax (i.e. a bunch of suitable ferrite
toroids)?

It's not like antenna itself cares which side is connected to shield or
center conductor (as long as no current is being carried on the outside
of the shield?)

It should work basically identically as a scheme with a coax balun, so
you could choose which ever is mechanically or cost-wise more
convenient. (I happen to have a box full of 31 mix toroids for such
things, you might happen to have extra coax or a clever way to support it..)

1315. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 23:12:45 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is3slg$8dh$1@dont-email.me>
Source record: 4816

On 5/31/2011 5:59 PM, Jim Lux wrote:
> On 5/31/2011 3:40 PM, John S wrote:
>> On 5/31/2011 5:04 PM, K7ITM wrote:
>>> On May 31, 1:35 pm, John S<soph...@invalid.org> wrote:
>>>> On 5/31/2011 1:52 PM, Jeff Liebermann wrote:
>>>>
>>>>
>>>>
>>>>> On Sat, 28 May 2011 14:25:47 -0700 (PDT), Frank<fmerri...@nycny.net>
>>>>> wrote:
>>>>
>>>>>> How many amateur radio operators use this kind of academic preening
>>>>>> when they are putting up a dipole.
>>>>
>>>>> Me, me, me. Even the simplest antenna is influenced by nearby
>>>>> structures, towers, poles, elevation, guy wires, position of coax
>>>>> feed, chain link fences, and grounding system. That makes a simple
>>>>> dipole not very simple. I've helped a few local hams model their
>>>>> houses allowing prediction of takeoff angles, mysterious nulls,
>>>>> optimum height, and cut length. While modeling (I use 4NEC2) does
>>>>> take some learning and understanding, it does offer an improvment over
>>>>> the tradition ham radio cut-n-try.
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>>>>
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>>>>> things work, or don't. Learn by Destroying(tm).
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>>>>
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>>>> grounded, making the feed point essentially grounded for DC and lower
>>>> frequencies. One such antenna is the folded unipole. Its only
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>>>> that the feedpoint resistance is about 120 or so ohms.
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>>>> radials about 45 degrees. Since that raises the feedpoint resistance,
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>>>> unipole and, if so, what effect would it have on the pattern?
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>>>> adjustments in element lengths but that was fairly easy with the vector
>>>> voltmeter. Hooray for modeling.
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>>>> Cheers,
>>>> John - KD5YI
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>>> Hooray also for using your head, John, and realizing that raising the
>>> radials would _probably_ have that effect -- then having that verified
>>> by a model, and then by an antenna that works well for you in
>>> practice.
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>> benefit of modeling would probably have resulted in giving up on it. I
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>> how things were going to be affected. Modeling is like having an antenna
>> breadboard but a whole lot less work.
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>>> Another way that should work: make the two parallel conductors
>>> different diameters, with the correct spacing. You might also try
>>> making a self-supporting grounded quarter wave, resonant with its
>>> radials, and fed with a parallel conductor that doesn't go all the way
>>> to the top of the quarter wave...
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>> I looked at those (EZNEC) years a go and was never satisfied. I have
>> learned much more now, so I might benefit from another look.
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>>> So there are three different arrangements, perhaps with pretty similar
>>> electrical characteristics, and you can then pick among them for the
>>> one that suits your construction practices the best. Perhaps there
>>> are some more "grounded" monopole designs you throw into the mix.
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>>> Yes, if you're "just throwing up a dipole," maybe you don't worry
>>> about things like this, but there are those of us who like to think a
>>> bit deeper about things. I can only hope I remain infinitely tolerant
>>> of those who like to think much deeper than I about many things.
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>>> Cheers,
>>> Tom
>>
>> C'mon, Tom. You're a very knowledgeable person and I value your input.
>> That's plenty deep.
>>
>> By the way, I used Walt's inherent balun to make a diamond-shaped
>> antenna which needs no additional balun. It is 50 ohms at the feedpoint.
>> It, too is inherently short-circuited and, with the inherent balun,
>> probably groundable.

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>> It was an interesting exercise that went like this:
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>> 1. I like a loop for the inherent short-circuit.
>> 2. It has about 100-120 ohms terminal resistance. I want 50 ohms.
>> 3. It needs a balun. But, I don't really want one.
>>
>> A folded dipole is about 300 ohms. A half-wave shorted transmission line
>> is about 0 ohms. So, if you take a shorted half-wave transmission line
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>> acute angle of the rhombus is about 51.5 degrees, then the terminal
>> resistance is about 50 ohms (adjust perimeter along with angle to get
>> 50+j0).
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>> Ok, fine. That takes care of everything but the balun. In Walt's
>> Reflections III, he discusses the half-turn bifilar loop (page 22-10).
>> But what was intriguing was the inherent balun. Aha!
>>
>> So, after modeling as well as I knew how, I constructed a rhombus
>> (diamond-shaped) antenna with the right half of the diamond being coax
>> (inherent balun) and the left half of the diamond being 14 ga wire.
>>
>>
>
>
> Are you feeding this with coax? Why not use a big choke at the feedpoint
> on the outside of the coax (i.e. a bunch of suitable ferrite toroids)?

I don't understand. The built-in inherent balun needs no choke.

John

1316. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-05-31 23:30:02 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <is3tlpqfn2@news.jpl.nasa.gov>
Source record: 4817

On 5/31/2011 4:12 PM, John S wrote:

>> Are you feeding this with coax? Why not use a big choke at the feedpoint
>> on the outside of the coax (i.e. a bunch of suitable ferrite toroids)?
>
> I don't understand. The built-in inherent balun needs no choke.
>

But doesn't it need an extra length of coax on one of the sides?

1317. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 00:48:07 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is428a$8hn$1@dont-email.me>
Source record: 4818

On 5/31/2011 6:30 PM, Jim Lux wrote:
> On 5/31/2011 4:12 PM, John S wrote:
>
>>> Are you feeding this with coax? Why not use a big choke at the feedpoint
>>> on the outside of the coax (i.e. a bunch of suitable ferrite toroids)?
>>
>> I don't understand. The built-in inherent balun needs no choke.
>>
>
> But doesn't it need an extra length of coax on one of the sides?
>

No. The left-hand side is #14 wire while the right-hand side is coax (obviously left and right can be reversed). A BNC female is at the bottom, bayonets downward, terminals upward.

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The coax (right side) is connected as usual to the BNC and bent as shown. However, the coax's center conductor *only* is connected at the top to the #14 wire on the left of the diamond. The bottom end of the #14 wire is connected to the BNC connector shell at the bottom.

The piece of coax on the right forms the balun. It is close to 1/4W internally considering the velocity factor of the coax, but about 1/2W externally.

As I said, it isn't exact. It measures very well here. I measured VSWR of 1.02 but that was not the important part of all this. I have yet to measure current on the transmission line from the BNC to the source to my satisfaction.

If I can supply clarifying info, let me know.

73,
John

1318. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 01:13:43 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is43oa$g3j$1@dont-email.me>
Source record: 4819

On 5/31/2011 7:48 PM, John S wrote:

>
> The coax (right side) is connected as usual to the BNC and bent as
> shown. However, the coax's center conductor *only* is connected at the
> top to the #14 wire on the left of the diamond. The bottom end of the
> #14 wire is connected to the BNC connector shell at the bottom.
>
> The piece of coax on the right forms the balun. It is close to 1/4W
> internally considering the velocity factor of the coax, but about 1/2W
> externally.
>
> As I said, it isn't exact. It measures very well here. I measured VSWR
> of 1.02 but that was not the important part of all this. I have yet to
> measure current on the transmission line from the BNC to the source to
> my satisfaction.
>
> If I can supply clarifying info, let me know.
>
> 73,
> John

I meant to give Walt (W2DU and Reflections III) credit for the inherent balun as before. My only contribution is my discovery (or re-discovery) that the terminal impedance of the antenna can be adjusted within the limits mentioned in my earlier post.

One other post script: As the quad departs from a square, it seems that the antenna gets a bit more touchy with regards to dimensions. It is difficult to tell for sure, though, since I'm doing this at 434 MHz and *everything* is touchy there.

Cheers,
John

1319. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 03:45:17 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <7636fc96-87d6-4eca-b766-2223ade47afd@w21g2000yqm.googlegroups.com>
Source record: 4820

On May 31, 1:07 pm, walt <w...@w2du.com> wrote:
> On May 31, 11:07 am, Wond <jet...@bcsuperNOTnet.com> wrote:
>
>
>
> > I sort of think also, the Lazy H (think colinear?) should be fed and
> > phased with 75 ohm line.
>
> > On Mon, 30 May 2011 14:48:45 -0700, walt wrote:
>
> > If you feed at the center of the line connecting the two radiating
> > elements the phasing will be correct regardless of the velocity
> > factor, because the length from the center feed point on the
> > connecting line will be the same from that point to each radiating
> > element. With this configuration of feeding don't put a twist in the
> > connecting line--the two radiating elements MUST be fed IN PHASE! If
> > they're fed out of phase the array will look like an Adcock direction-
> > finding antenna, with a deep null in the radiation pattern in the
> > broadside direction.
>
> > Just my thoughts,
>
> > Walt, W2DU
>
> Another point to consider, Mark, is that the azimuth beam width is
> narrower with the lazy-H than that of the dipole. So perhaps the
> apparent lower signal level is in directions off the side of the
> radiation pattern, where one would expect the signal level to be lower
> than that of the dipole at the same angle.
>
> Walt

I "MAY" have figured out what was wrong with the Lazy H. This is a
tentative post.

The Lazy H is located in Charleston, South Carolina and it is
broadside to Southern California. It should be aiming just barley
north of West and just barely south of East. The first clue came when
a station in the Caribbean gave me a 20 over S9 report. That
direction should be in a null spot. The propagation has been coming
in from Texas, Southern California, Central and South America, and the
Northeast (New York, Mass, New Jersey, etc). Well today the
propagation rolled in from the North west, and I saw a signal increase

from a station in Iowa when I compared the Lazy H to the dipole. That is not the direction the Lazy H is facing, so it occurred to me there might be something skewing the propagation angle of the antenna to the north west and south east. Since there has not been any propagation from the North/west direction until today I had nothing to test it against. I went outside and noticed the 450 ohm feed line was not coming away from the Lazy H at a 90 degree angle. It was more of a 45 degree angle. I added some length to the 450 ohm ladder line, and then repositioned the feed line to come away from the Lazy H at a 90 degree angle. When I went back to test the antenna it was beginning to show gain in the intended direction. Also the tuner had an easier time matching the antenna. I may have to play with it some more, but I may have found the missing 5.9 dbd gain with 1/2 wave spacing. I'm going to keep my fingers crossed and hope I don't have to retract this post.

Michael Rawls
KS4HY

1320. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 04:59:28 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <db15fe9d-a5d0-4ec1-8f0f-ee6aa77424cf@r33g2000prh.googlegroups.com>
Source record: 4821

On May 31, 3:46 pm, John S <soph...@invalid.org> wrote:
> On 5/31/2011 5:40 PM, John S wrote:
>
> > A folded dipole is about 300 ohms. A half-wave shorted transmission line
> > is about 0 ohms. So, if you take a shorted half-wave transmission line
> > and spread the wires apart at the 1/4W point all the way to where it
> > becomes a folded dipole, it seems to me that the terminal resistance
> > will go from zero to 300 ohms and 50 ohms is in there somewhere.
>
> > I tried it in EZNEC and found that to be the case. I found that, if the
> > acute angle of the rhombus is about 51.5 degrees, then the terminal
> > resistance is about 50 ohms (adjust perimeter along with angle to get
> > 50+j0).
>
> As an aside, I found it time consuming to adjust angles and repeat the
> source impedance test in EZNEC. So, I created an Excel spreadsheet where
> I could simply input the perimeter, the acute angle, height above
> ground, wire gauges, and number of segments and wrote a short VBA to
> gather the spreadsheet results and create an EZNEC importable file.
>
> Man, what a time saver.
>
> 73,
> John

That sounds like something that would be valuable to others, too,
John. You might think about making it available...

BTW, I do think pretty deeply about a lot of things, but there are far
more I don't bother with. Still, people who do think deeply about all
those other things hold my respect for what they do, whether it's
topics I have any interest in or not. Along with that is an
understanding of how important it is that we can freely share what we
learn with others.

Cheers,
Tom

1321. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 06:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1306908001@panix.com>
Source record: 4822
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

1322. Re: Relation of radiation resistance and terminal resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 15:37:16 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is5mbf$8e2$1@dont-email.me>
Source record: 4823

On 5/31/2011 11:59 PM, K7ITM wrote:
> On May 31, 3:46 pm, John S<soph...@invalid.org> wrote:
>> On 5/31/2011 5:40 PM, John S wrote:
>> As an aside, I found it time consuming to adjust angles and repeat the
>> source impedance test in EZNEC. So, I created an Excel spreadsheet where
>> I could simply input the perimeter, the acute angle, height above
>> ground, wire gauges, and number of segments and wrote a short VBA to
>> gather the spreadsheet results and create an EZNEC importable file.
>>
>> Man, what a time saver.
>>
>> 73,
>> John
>
> That sounds like something that would be valuable to others, too,
> John. You might think about making it available...

It is so narrowly focused on the rhombus that I doubt it would be useful to anybody else. But, it is available to anybody who wants it.

John

1323. Re: NVIS and VHF? (Update)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 21:48:03 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <t8KdnbFIY94ELnvQnZ2dnUVZ_tudnZ2d@posted.localnet>
Source record: 4824

'Captain' Kirk DeHaan said the following on 5/22/2011 11:04 AM:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
> a lot of trees, mostly poplars, in the direct path. I would have a line
> of sight if not for the trees as I'm up enough in altitude. I can cut
> the trees, they're mine, but finding the right ones is difficult and i
> don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it being
> applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

I am still working on finding where the problem is. I pulled the J-pole down and checked the resistance of the separate connections. I didn't want to pull it apart if not necessary. Everything showed 0.0 to 0.1 ohms. Seems fine to me. I then cleaned the connector as throughly as possible using emory cloth inside and dremeled the outside with a fine wire brush. There was a small amount of oxidation and it appeared much cleaner and brighter after. I also straightened the two elements but they were not really that bent. You had to look down the long axis to see any deviation. They are as straight as they are going to get but I can't believe that would make much difference.

After all this I put it back up to it's original height. There was not discernible change. I was almost unreadable at the repeater.

Next I pushed up my mast a few feet more. It is a 50' pushup that normally requires guy wires. I am not using any so I am leaving considerable overlap of the sections. I would estimate it is up around 32'. Even in high winds here I saw little deflection with just the J-pole. The 3 or 4 feet I pushed it up gave me a little bit of improvement. When I win the lottery I'll get a 100' tower put up. Guess I'm stuck with this then :-)

I still think it is the trees and have taken a picture from the roof peak towards the repeater so you can see what I am dealing with.

http://www.ncc-1701a.net/Ham Radio/ForestObstruction.jpg

It is deceiving as there are many more trees behind this line on my neighbors property. I wouldn't even think of asking him to cut any.

They are money in the bank for him.

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1324. Re: NVIS and VHF? (Update)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 22:37:10 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is6eup$k4t$1@dont-email.me>
Source record: 4825

On 6/1/2011 4:48 PM, 'Captain' Kirk DeHaan wrote:
> 'Captain' Kirk DeHaan said the following on 5/22/2011 11:04 AM:
>> I'm living in a wooded area and am trying to hit our club repeater
>> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
>> a lot of trees, mostly poplars, in the direct path. I would have a line
>> of sight if not for the trees as I'm up enough in altitude. I can cut
>> the trees, they're mine, but finding the right ones is difficult and i
>> don't want to waste the whole grove.
>>
>> I go from keying the repeater with no intelligible signal to not being
>> able to hit it. Today I actually have an S meter reading due to the
>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>> wonder if NVIS would work on 2m? I have only seen references to it being
>> applied in HF.
>>
>> 'Captain' Kirk DeHaan
>> N6SXR
>
> I am still working on finding where the problem is. I pulled the J-pole
> down and checked the resistance of the separate connections. I didn't
> want to pull it apart if not necessary. Everything showed 0.0 to 0.1
> ohms. Seems fine to me. I then cleaned the connector as throughly as
> possible using emory cloth inside and dremeled the outside with a fine
> wire brush. There was a small amount of oxidation and it appeared much
> cleaner and brighter after. I also straightened the two elements but
> they were not really that bent. You had to look down the long axis to
> see any deviation. They are as straight as they are going to get but I
> can't believe that would make much difference.
>
> After all this I put it back up to it's original height. There was not
> discernible change. I was almost unreadable at the repeater.
>
> Next I pushed up my mast a few feet more. It is a 50' pushup that
> normally requires guy wires. I am not using any so I am leaving
> considerable overlap of the sections. I would estimate it is up around
> 32'. Even in high winds here I saw little deflection with just the
> J-pole. The 3 or 4 feet I pushed it up gave me a little bit of
> improvement. When I win the lottery I'll get a 100' tower put up. Guess
> I'm stuck with this then :-)
>
> I still think it is the trees and have taken a picture from the roof
> peak towards the repeater so you can see what I am dealing with.
>
> http://www.ncc-1701a.net/Ham Radio/ForestObstruction.jpg

>
> It is deceiving as there are many more trees behind this line on my
> neighbors property. I wouldn't even think of asking him to cut any. They
> are money in the bank for him.
>

Hi, Kirk -

It looks more formidable than I had imagined. I am sure the picture will
generate some comments.

Nobody can say you aren't making maximum effort, for sure.

When will be that club meeting?

73,
John - KD5YI

1325. Re: NVIS and VHF? (Update)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-01 22:47:41 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is6fig$p31$1@dont-email.me>
Source record: 4826

On 6/1/2011 4:48 PM, 'Captain' Kirk DeHaan wrote:

> I am still working on finding where the problem is. I pulled the J-pole
> down and checked the resistance of the separate connections. I didn't
> want to pull it apart if not necessary. Everything showed 0.0 to 0.1
> ohms. Seems fine to me. I then cleaned the connector as throughly as
> possible using emory cloth inside and dremeled the outside with a fine
> wire brush. There was a small amount of oxidation and it appeared much
> cleaner and brighter after. I also straightened the two elements but
> they were not really that bent. You had to look down the long axis to
> see any deviation. They are as straight as they are going to get but I
> can't believe that would make much difference.
>
> After all this I put it back up to it's original height. There was not
> discernible change. I was almost unreadable at the repeater.
>
> Next I pushed up my mast a few feet more. It is a 50' pushup that
> normally requires guy wires. I am not using any so I am leaving
> considerable overlap of the sections. I would estimate it is up around
> 32'. Even in high winds here I saw little deflection with just the
> J-pole. The 3 or 4 feet I pushed it up gave me a little bit of
> improvement. When I win the lottery I'll get a 100' tower put up. Guess
> I'm stuck with this then :-)
>
> I still think it is the trees and have taken a picture from the roof
> peak towards the repeater so you can see what I am dealing with.
>
> http://www.ncc-1701a.net/Ham Radio/ForestObstruction.jpg
>
> It is deceiving as there are many more trees behind this line on my
> neighbors property. I wouldn't even think of asking him to cut any. They
> are money in the bank for him.
>

Kirk -

Do you have parts on hand such as extra coax, connectors, wire, etc?

Although you have done a thorough job of examining your installation, it behoove you to make a test separate from your present antenna installation.

For example, you could simply strip 1/4WL from the end of a coax feeder and put that end on the roof temporarily. I know, not the best match, common mode currents down the line, signal launches upward, etc. But, it is simple and might tell you something.

Maybe a quick, thrown-together ground plane?

Just a thought.

73,
John

1326. Re: NVIS and VHF? (Update)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 05:37:49 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <5d14db16-110f-46ce-82ce-dc66b92a2e5c@k15g2000pri.googlegroups.com>
Source record: 4827

On Jun 1, 2:48 pm, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> 'Captain' Kirk DeHaan said the following on 5/22/2011 11:04 AM:
>
> > I'm living in a wooded area and am trying to hit our club repeater
> > reliably. It's cloudy now so I'm and getting a bit of ducting but I have
> > a lot of trees, mostly poplars, in the direct path. I would have a line
> > of sight if not for the trees as I'm up enough in altitude. I can cut
> > the trees, they're mine, but finding the right ones is difficult and i
> > don't want to waste the whole grove.
>
> > I go from keying the repeater with no intelligible signal to not being
> > able to hit it. Today I actually have an S meter reading due to the
> > clouds. I am currently using a J-pole and will put up a Yagi soon but
> > wonder if NVIS would work on 2m? I have only seen references to it being
> > applied in HF.
>
> > 'Captain' Kirk DeHaan
> > N6SXR
>
> I am still working on finding where the problem is. I pulled the J-pole
> down and checked the resistance of the separate connections. I didn't
> want to pull it apart if not necessary. Everything showed 0.0 to 0.1
> ohms. Seems fine to me. I then cleaned the connector as throughly as
> possible using emory cloth inside and dremeled the outside with a fine
> wire brush. There was a small amount of oxidation and it appeared much
> cleaner and brighter after. I also straightened the two elements but
> they were not really that bent. You had to look down the long axis to
> see any deviation. They are as straight as they are going to get but I
> can't believe that would make much difference.

I don't think anybody asked you:

How much power are you putting out?

How well do you hear the repeater; are there times when it fades below
squelch while you're listening to other people?

(No, I don't have a 2m PA that I'm trying to unload.)

Sal

1327. Re: NVIS and VHF? (Update)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 15:23:11 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <voGdnfyerOB8N3rQnZ2dnUVZ_rmdnZ2d@posted.localnet>
Source record: 4828

Sal M. Onella said the following on 6/1/2011 10:37 PM:
> On Jun 1, 2:48 pm, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
> wrote:
>> 'Captain' Kirk DeHaan said the following on 5/22/2011 11:04 AM:
>>
>>> I'm living in a wooded area and am trying to hit our club repeater
>>> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
>>> a lot of trees, mostly poplars, in the direct path. I would have a line
>>> of sight if not for the trees as I'm up enough in altitude. I can cut
>>> the trees, they're mine, but finding the right ones is difficult and i
>>> don't want to waste the whole grove.
>>
>>> I go from keying the repeater with no intelligible signal to not being
>>> able to hit it. Today I actually have an S meter reading due to the
>>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>>> wonder if NVIS would work on 2m? I have only seen references to it being
>>> applied in HF.
>>
>>> 'Captain' Kirk DeHaan
>>> N6SXR
>>
>> I am still working on finding where the problem is. I pulled the J-pole
>> down and checked the resistance of the separate connections. I didn't
>> want to pull it apart if not necessary. Everything showed 0.0 to 0.1
>> ohms. Seems fine to me. I then cleaned the connector as throughly as
>> possible using emory cloth inside and dremeled the outside with a fine
>> wire brush. There was a small amount of oxidation and it appeared much
>> cleaner and brighter after. I also straightened the two elements but
>> they were not really that bent. You had to look down the long axis to
>> see any deviation. They are as straight as they are going to get but I
>> can't believe that would make much difference.
>
> I don't think anybody asked you:
>
> How much power are you putting out?
>
> How well do you hear the repeater; are there times when it fades below
> squelch while you're listening to other people?
>
> (No, I don't have a 2m PA that I'm trying to unload.)
>
> Sal
>
Sal,

My TM-721A is putting out 35 watts. At least that is the spec. The repeater is always scratchy and barely readable. I've only had one time when it even showed up on the S meter. That was low clouds so I assume it was cloud bounce.

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1328. Re: using a microwave tester to measuer WiFi EIRP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 15:25:33 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF86A0F22EBAnotnowneverorg@127.0.0.1>
Source record: 4829

I hope I don't sound to ignorant here, too often thats the
case.
But If you have a known working Wifi AP with a high end
reputation like Cisco Airnet model 2400 for instance.
They advertize 1 watt, it's one watt no funny bones about it
or busnesses wouldn't respect their higher prices and pop for
it.
Take an EMF meter like the one on Ghost Hunters TV show,
radio shack has them, and set it ten feet LOS from the AP
[Cisco] wile downloading a big video file or something large,
and set that as your "One Watt" point, now you have a
comparason, of course notice the Antenna "Type" and location.
Heck you can use a cheap NetBook with built in WiFi and
NetStumbler software to measure the IF strenth. All you have
to be sure of is the output of your "Sample" source.
My Alfa USB WiFi unit LIES!!! they claim a half a watt, NO
WAY!!! I bet if Cisco built it they wouldn't lie about that
stuff, and of course it would cost more than 60 bucks.

"Geoffrey S. Mendelson" <gsm@mendelson.com> wrote in
news:slrnh3rk0n.pfi.gsm@cable.mendelson.com:

> Jim Lux wrote:
>> They do make a nifty $100-200 or so WiFi spectrum analyzer
>> which has a calibrated receiver. And, if you have a wifi
>> card with an exernal antenna, you can do even better.
>
----------snip2save-----------------

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "

1329. Re: How to make an excellent wifi (802.11 b/g/n) antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 15:49:38 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF86E2404677notnowneverorg@127.0.0.1>
Source record: 4830

"JB" <nospam@goofball.net> wrote in
news:sSWCk.1552$MN3.377@nwrddc01.gnilink.net:

> Still it is a pain to have to climb and do acrobatics just
> to push a reset button.

If the unit has high dollar choices of hard ware use a DRAC 5
net card, our Dell servers use them, When you Telnet into them
and command a shutdown, it does not argue, it shuts down even
at the cost of head crash!!!! DRAC 5 is a robotic remote
control to the backend of whatever unit you are using it on.
It's like pulling the plug out of the wall, game over, the
unit automatically Restarts unless you send a shutdown - stay
down command. DRAC 5 cards are just as cheap as NIC cards and
install the same way. See if the WiFi transmitter had a DRAC 5
option when buying, Our high end cysco stuff comes with them.

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "

1330. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 16:32:50 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <0f956d25-692b-4ada-8571-383e2d91d09e@j31g2000yqe.googlegroups.com>
Source record: 4831

On 27 mayo, 21:30, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> John KD5YI said the following on 5/26/2011 8:56 PM:
>
>
>
> > On 5/24/2011 11:05 PM, 'Captain' Kirk DeHaan wrote:
> >> Dave Platt said the following on 5/24/2011 2:54 PM:
> >>> In article<-4WdnbLZR4QGUEbQnZ2dnUVZ_o-dn...@posted.localnet>,
> >>> 'Captain' Kirk DeHaan<captk...@ncc-1701a.net> wrote:
>
> >>>> All of this leads me to think that something else is wrong. I can
> >>>> hit a
> >>>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
> >>>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>
> >>> There may well be something wrong with the antenna. I don't have an SWR
> >>> meter handy but will try and borrow one from a club member. The J-pole
> >>> was beat around quite a bit over the years but since the radio has a
> >>> limiting circuit if the SWR is too far out of whack I am assuming it is
> >>> fairly close. It will transmit of full power.
>
> >>> One of the things to know about the American Legion J-pole (and most
> >>> vaguely-similar J-poles) is that it has no feedline or mount-point
> >>> isolation to speak of. The outside of the feedline coax, and any pipe
> >>> or tower or other metal to which you strap the antenna, become part of
> >>> the antenna's ground system, and can radiate a significant amount of
> >>> RF. This can interact with the RF coming from the main radiator, and
> >>> significantly alter the antenna's pattern... it no longer behaves like
> >>> an idealized half-wave vertical radiator.
>
> >>> In most installations this doesn't seem to matter all that much... but
> >>> it's possible that you've got some sort of weird interaction (feedline
> >>> emissions, reflections from the ground or nearby metal, etc.) which is
> >>> creating a null in the antenna's pattern in just the wrong direction.
> >>> If this is an issue (not all that likely but perhaps possible) you
> >>> could insulate the antenna from the mounting mask, and install a choke
> >>> (e.g. a few ferrite cores) on the feedline just below the antenna.
>
> >> It is mounted on an angle bracket about 12" from a mast 20' above my
> >> metal roof. The mast is isolated from roof but is not yet grounded.
>
> >>> Also, the American Legion J-poles are subject to a couple of forms of
> >>> mechanical/electrical failure after a few years. The plastic

> >>> insulator which spaces apart the radiator and matching arm can degrade
> >>> (UV from sunlight is the main offendor, I believe) and crack, allowing
> >>> the two arms to change spacing. More subtly, the connection between
> >>> the two arms and the metal base can degrade... it's aluminum-to-
> >>> aluminum using a set-screw, and the connection can loosen and corrode.
>
> >> My spacer basically disintegrated. I replaced it with 1/2" pvc pipe. I
> >> measured the spacing at the base and got it as close as possible.
>
> >> I will check out the other connections. There is obvious aluminum oxide
> >> on the assembly so it is very possible it is down between the parts.
>
> >> I'll get up on my steep metal roof after the rains stop. :-)
>
> >>> It might be worth checking the spacer (replace if necessary), and
> >>> checking and tuning up the set-screw connections (squirt with Liquid
> >>> Wrench if necessary, loosen and remove, take out the rods, clean the
> >>> ends of the rods and the mounting holes in the place, dab with NoAlOx
> >>> or a similar corrosion-blocker, reassemble and tighten).
>
> >>>> I'm using 75' of
> >>>> professionally assembled RG8X which is required to get from the
> >>>> radio to
> >>>> the antenna.
>
> >>> That's probably costing you about half of your power (assuming a
> >>> typical RG8X-type coax). Some lower-loss types (e.g. LMR-240 are
> >>> better than this.
>
> >> Thanks for the suggestions.
>
> > Hey, Kirk -
>
> > After reading Wim's response, I am more convinced than ever that you
> > have a problem with your antenna, coax, or transceiver.
>
> > What type of coax are you using? Could it have gotten water inside? Are
> > you using the coax that you used 10 years ago?
>
> > Try to think of other question similar to these and we'll get to the
> > bottom of this.
>
> > Cheers,
> > John
>
> John,
>
> I believe it is either the trees or the antenna. The coax is new and
> the transceiver worked fine last time I used it. Also works fine with
> this setup getting into the repeater on Schweitzer , 145.230, with 5

> watts and the signal report from a gentleman I spoke to was 59. That is
> a clear shot and a few miles closer. Although the profiles show there
> should be a clear shot to the .780 repeater I can gurantee there is a
> wall of trees on the first little ridge on the profile. I found that my
> club, which I've only been with for a month, has an SWR meter and an
> antenna analyzer. I hope to borrow them to see what's up. In the
> meantime I will pull the J-pole down and clean it up as suggested.
> There is considerable aluminum oxide on the outside of the parts so
> there may be some between the base and uprights. When I put it back up
> I will move it 180 degrees from it current location. That will only
> move it about 2' but who knows.
>
> --
> 'Captain' Kirk DeHaan
> N6SXR
>
> "Beam me up Scotty, there's no intelligent life here"

Hello Kirk,

If you have access to both ends of the cable and have access to some
VSWR measurement equipment, you may measure following things (and post
them overhere):

VSWR of cable when terminated with a dummy load
VSWR of cable when open
VSWR of cable when short-circuited
VSWR of cable with J-pole antenna

Now reduce the output power of your transceiver to avoid damage

VSWR when nothing connected to the output of the VSWR meter
VSWR when output of VSWR meter is shorted.

Make sure to check the reference (forward) reading after every change
in load, as this may change due to varying load as seen by the
transceiver. You may also do these measurements with the antenna
analyser (preferably both antenna analyser and VSWR meter).

Regarding the trees, it looks dense. Sadly to mention, if it are the
trees, you have to live with this as tree attenuation at 2m is
relatively low and first fresnel zone is relatively large at > 160m.
You need to remove lots of them to get remarkable improvement and you
mentioned that you couldn't remove lots of them because of financial
reasons.

With kind regards,

Wim
PA3DJS
www.tetech.nl
Don't forget to instruct your racing pigeon to remove abc before
letting him cross the Ocean.

1331. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 16:36:25 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF87612F64C0notnowneverorg@127.0.0.1>
Source record: 4832

SNIP2SAVE-------
It's about 600 bucks but a Cysco 2400 WiFi with PoE support
would do this, however , remoting into a router everytime you
want to scour the bands or make an AP change is a bit of a
nucense. Thats what turns people to USB Dish and Dongle
setups. You can switch AP access on the fly, with the router
you have to "Go To Work" sort of speek. It does however
benefiet your telnet skills. :-)
If I could find a lower end name "Repeater" capable AP point
unit like a NetGear or similar and program it to autologon to
unprotected WiFi access points That would Kick butt.
Thats called promiscuous mode but has moral issues.
And another turn off, Two transmitters equalls double the
Packet overhead witch converts to half the speed even if you
have a strong signal. The KISS methoud always wins for
performance in WiFi.

> I'd like to learn more about why the USB is chosen.
>
> Jerry KD6JDJ
>
>
>

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "

1332. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 16:45:32 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF8779EAB784notnowneverorg@127.0.0.1>
Source record: 4833

On 04 Mar 2008, you wrote in rec.radio.amateur.antenna:

>
> Maybe I am missing something here, but if you put a
> wireless router at the top of the tower why do you need
> anything else other than power up the mast? You can can
> talk to the router locally over the air without the need
> for a cable connection.
>
> Jeff
>
>

There are two issues that I am ignorant to;
1; is the WEB services that are built into these routers in order to program them too often is DIS-Allowed through the AIR.
Most make you connect to a "DMZ" drop [cat5] on the router to bypass the NAT firewall and administer the stats that way.
I have never succeeded in getting to that page through Wi-Fi methods. Some routers are easy to get to through the NAT drops provided on the router there are generally 2 or 3 of them. You can NULL cat5 into the things direct from a laptop, but AirNet into them? I haven't seen that [yet].

--
Quote "Get SSL VPN services now, KEEP Government OUT of your business... "

1333. Vertical on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 17:21:31 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <is8gqu$5vj$2@dont-email.me>
Source record: 4834

I'm looking into mounting a vertical (20 meters and higher freq) on a new patio cover. The cover is made out of 6 inch by 16 foot aluminum channels that interlock edge to edge across a 20 foot width. Each section is powder coated (aka...."painted"), so the sections are most likely not well connected electrically to each other.

I'm considering a 10 foot long H shaped metal structure lying on the cover, with the antenna mounted in the center of the H. Radials are a possible but not desired approach. Any other suggested methods of mounting the antenna/etc.?
--Wayne W5GIE

1334. Re: using a microwave tester to measuer WiFi EIRP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 17:22:21 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <is8gsdddo1@news.jpl.nasa.gov>
Source record: 4835

On 6/2/2011 8:25 AM, moronsbegone wrote:
> I hope I don't sound to ignorant here, too often thats the
> case.
> But If you have a known working Wifi AP with a high end
> reputation like Cisco Airnet model 2400 for instance.
> They advertize 1 watt, it's one watt no funny bones about it
> or busnesses wouldn't respect their higher prices and pop for
> it.
> Take an EMF meter like the one on Ghost Hunters TV show,
> radio shack has them, and set it ten feet LOS from the AP
> [Cisco] wile downloading a big video file or something large,
> and set that as your "One Watt" point, now you have a
> comparason, of course notice the Antenna "Type" and location.
> Heck you can use a cheap NetBook with built in WiFi and
> NetStumbler software to measure the IF strenth. All you have
> to be sure of is the output of your "Sample" source.
> My Alfa USB WiFi unit LIES!!! they claim a half a watt, NO
> WAY!!! I bet if Cisco built it they wouldn't lie about that
> stuff, and of course it would cost more than 60 bucks.

Uhh.. with the test scheme you describe, there's a ton of things that could be perturbing your results: mostly because you're measuring radiated power in a single direction, which is connected to RF transmit power, but also affected (greatly) by the antenna.

Different Wi-Fi implementations may have the same RF transmitter power, but have different transmit duty cycles. Your meter is doing some sort of time averaging.

The antenna performance on your two units under test is probably radically different. The little USB pods often have a small antenna which has lower efficiency.

I doubt your inexpensive meter has uniform response in all directions and all polarizations.

You could start to compensate for a lot of the latter by making multiple measurements at different positions separated by, say, 5cm (2") moving the meter by, say, 2 or 3 feet vertically, and 2 or 3 feet horizontally.

Anyway, measuring transmit power in the far field with an meter with unknown spatial and polarization response is trickier than it seems.

1335. Re: using a microwave tester to measuer WiFi EIRP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 18:07:29 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is8jh5$om4$1@dont-email.me>
Source record: 4836

On 6/2/2011 12:22 PM, Jim Lux wrote:
> On 6/2/2011 8:25 AM, moronsbegone wrote:
>> I hope I don't sound to ignorant here, too often thats the
>> case.
>> But If you have a known working Wifi AP with a high end
>> reputation like Cisco Airnet model 2400 for instance.
>> They advertize 1 watt, it's one watt no funny bones about it
>> or busnesses wouldn't respect their higher prices and pop for
>> it.
>> Take an EMF meter like the one on Ghost Hunters TV show,
>> radio shack has them, and set it ten feet LOS from the AP
>> [Cisco] wile downloading a big video file or something large,
>> and set that as your "One Watt" point, now you have a
>> comparason, of course notice the Antenna "Type" and location.
>> Heck you can use a cheap NetBook with built in WiFi and
>> NetStumbler software to measure the IF strenth. All you have
>> to be sure of is the output of your "Sample" source.
>> My Alfa USB WiFi unit LIES!!! they claim a half a watt, NO
>> WAY!!! I bet if Cisco built it they wouldn't lie about that
>> stuff, and of course it would cost more than 60 bucks.
>
>
> Uhh.. with the test scheme you describe, there's a ton of things that
> could be perturbing your results: mostly because you're measuring
> radiated power in a single direction, which is connected to RF transmit
> power, but also affected (greatly) by the antenna.
>
> Different Wi-Fi implementations may have the same RF transmitter power,
> but have different transmit duty cycles. Your meter is doing some sort
> of time averaging.
>
> The antenna performance on your two units under test is probably
> radically different. The little USB pods often have a small antenna
> which has lower efficiency.
>
> I doubt your inexpensive meter has uniform response in all directions
> and all polarizations.
>
> You could start to compensate for a lot of the latter by making multiple
> measurements at different positions separated by, say, 5cm (2") moving
> the meter by, say, 2 or 3 feet vertically, and 2 or 3 feet horizontally.
>
> Anyway, measuring transmit power in the far field with an meter with
> unknown spatial and polarization response is trickier than it seems.

In addition to that, I think the emission is frequency-hopping and may have a duty factor associated with the scheme. I think he may need a peak-power capture scheme.

Also, how is a field strength meter calibrated for emitted power with all the variables involved?

1336. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 18:27:12 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <41977855-f4f7-4feb-9d8b-c9dc4aff97b5@32g2000vbe.googlegroups.com>
Source record: 4837

On May 31, 11:45 pm, Michael <goo...@shadowstorm.com> wrote:
> On May 31, 1:07 pm, walt <w...@w2du.com> wrote:
>
>
>
> > On May 31, 11:07 am, Wond <jet...@bcsuperNOTnet.com> wrote:
>
> > >   I sort of think also, the Lazy H (think colinear?) should be fed and
> > > phased with 75 ohm line.
>
> > > On Mon, 30 May 2011 14:48:45 -0700, walt wrote:
>
> > > > If you feed at the center of the line connecting the two radiating
> > > > elements the phasing will be correct regardless of the velocity
> > > > factor, because the length from the center feed point on the
> > > > connecting line will be the same from that point to each radiating
> > > > element. With this configuration of feeding don't put a twist in the
> > > > connecting line--the two radiating elements MUST be fed IN PHASE! If
> > > > they're fed out of phase the array will look like an Adcock direction-
> > > > finding antenna, with a deep null in the radiation pattern in the
> > > > broadside direction.
>
> > > > Just my thoughts,
>
> > > > Walt, W2DU
>
> > Another point to consider, Mark, is that the azimuth beam width is
> > narrower with the lazy-H than that of the dipole. So perhaps the
> > apparent lower signal level is in directions off the side of the
> > radiation pattern, where one would expect the signal level to be lower
> > than that of the dipole at the same angle.
>
> > Walt
>
> I "MAY" have figured out what was wrong with the Lazy H. This is a
> tentative post.
>
>   The Lazy H is located in Charleston, South Carolina and it is
> broadside to Southern California. It should be aiming just barley
> north of West and just barely south of East. The first clue came when
> a station in the Caribbean gave me a 20 over S9 report. That
> direction should be in a null spot. The propagation has been coming
> in from Texas, Southern California, Central and South America, and the

> Northeast (New York, Mass, New Jersey, etc). Well today the
> propagation rolled in from the North west, and I saw a signal increase
> from a station in Iowa when I compared the Lazy H to the dipole. That
> is not the direction the Lazy H is facing, so it occurred to me there
> might be something skewing the propagation angle of the antenna to the
> north west and south east. Since there has not been any propagation
> from the North/west direction until today I had nothing to test it
> against. I went outside and noticed the 450 ohm feed line was not
> coming away from the Lazy H at a 90 degree angle. It was more of a
> 45 degree angle. I added some length to the 450 ohm ladder line, and
> then repositioned the feed line to come away from the Lazy H at a 90
> degree angle. When I went back to test the antenna it was beginning
> to show gain in the intended direction. Also the tuner had an easier
> time matching the antenna. I may have to play with it some more, but
> I may have found the missing 5.9 dbd gain with 1/2 wave spacing. I'm
> going to keep my fingers crossed and hope I don't have to retract this
> post.
>
> Michael Rawls
> KS4HY

Just a quick update. I am seeing some gain with the Lazy H now that the feed line exiting the antenna has been moved to a 90 degree angle, but I don't think I am seeing the 5.9 dbd gain promised in the ARRL Antenna Handbook. I would guess it is more around 3 or 4 dbd gain with 1/2 wave length elements and 1/2 wave spacing between the top and bottom elements. It seems like alot of trouble to go to when an extended double zepp at the same height as top wire of the Lazy H might do just as well if not better. The plus is the Lazy H may have cleaner nulls off the sides which is helping with the occasional AM carriers that are coming out of Central and South America.

Michael

1337. Re: using a microwave tester to measuer WiFi EIRP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 19:43:00 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <is8p45frk1@news.jpl.nasa.gov>
Source record: 4839

On 6/2/2011 11:07 AM, John S wrote:

>
> In addition to that, I think the emission is frequency-hopping and may
> have a duty factor associated with the scheme. I think he may need a
> peak-power capture scheme.

It doesn't hop, per se, but it does pulse.

>
> Also, how is a field strength meter calibrated for emitted power with
> all the variables involved?

It isn't..

The field strength meter measures power density (W/sq meter) or field (V/m), and you have to figure out how that relates back to transmitted power.

The OP wasn't actually reading it in power, he was using the meter as a sort of transfer standard. i.e. say it reads linearly in relative power from 0-100. You put a known 1 W source at 10 feet, and it reads, say, 88.

You put your unknown at 10 feet, and it reads, say, 44, so you calculate that the source must have been 1/2 Watt.

The problem is that you're really making more of an ERP (Tx power + antenna effects) measurement assuming an isotropic source/meter, which can easily have 10 dB of error from a variety of factors.

1338. Re: Vertical on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 19:52:41 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <is8pm9$g0t$1@news.jpl.nasa.gov>
Source record: 4838

On 6/2/2011 10:21 AM, Wayne wrote:
> I'm looking into mounting a vertical (20 meters and higher freq) on a
> new patio cover. The cover is made out of 6 inch by 16 foot aluminum
> channels that interlock edge to edge across a 20 foot width. Each
> section is powder coated (aka...."painted"), so the sections are most
> likely not well connected electrically to each other.

I'll bet they're better connected than you think. Are there sheet metal screws joining them? what's holding the strips to the frame? Can you put a wire/foil tape under the screws. In any case, it would be easy to bond the panels together with some short jumpers. I can think of a variety of ways to do this, but one of the easiest might be a strip of copper foil tape along the 20 foot length. Sand the powder coat away on a spot on each "strip", run a stainless sheet metal screw through the copper foil or braid and the aluminum. Then glop on something to seal it so it doesn't corrode or leak. Butyl roof mastic might be a good thing.

A fancier way would be to get another aluminum strip and spot weld it.

>
> I'm considering a 10 foot long H shaped metal structure lying on the
> cover, with the antenna mounted in the center of the H. Radials are a
> possible but not desired approach. Any other suggested methods of
> mounting the antenna/etc.?

You need to seriously think about bonding the roof anyway, so that is your best bet.

But, capacitively coupling from something lying on the surface would also probably work fairly well. Wide aluminum flashing laid out from your antenna base across the top of your corrugations (bend it to fit the ridges) and glued down might work pretty well.

If you had, say, 1 foot wide by 10 feet long, and it's 1/8" max distance, that's like a capacitor of about 500pF. Put a couple or three of those strips and you're doing pretty well. For your frequencies, it's like it's actually physically connected.

> --Wayne W5GIE
>

1339. Re: using a microwave tester to measuer WiFi EIRP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 21:20:57 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is8uru$9mj$1@dont-email.me>
Source record: 4840

On 6/2/2011 2:43 PM, Jim Lux wrote:
> On 6/2/2011 11:07 AM, John S wrote:
>
>>
>> In addition to that, I think the emission is frequency-hopping and may
>> have a duty factor associated with the scheme. I think he may need a
>> peak-power capture scheme.
>
> It doesn't hop, per se, but it does pulse.
>
>>
>> Also, how is a field strength meter calibrated for emitted power with
>> all the variables involved?
>
>
> It isn't..
>
> The field strength meter measures power density (W/sq meter) or field
> (V/m), and you have to figure out how that relates back to transmitted
> power.
>
> The OP wasn't actually reading it in power, he was using the meter as a
> sort of transfer standard. i.e. say it reads linearly in relative power
> from 0-100. You put a known 1 W source at 10 feet, and it reads, say, 88.
>
> You put your unknown at 10 feet, and it reads, say, 44, so you calculate
> that the source must have been 1/2 Watt.
>
> The problem is that you're really making more of an ERP (Tx power +
> antenna effects) measurement assuming an isotropic source/meter, which
> can easily have 10 dB of error from a variety of factors.

That makes sense. But, what about reflections, exact positioning, etc?
For example, in a low-signal location, moving my cell phone a fraction
of an inch can change the signal from "no connection" to two bars. In a
room with light fixtures, power wiring in the walls, picture frames,
computers, etc, I doubt the reading can be of much value. It might be
better to move the detector all around while recording readings to get
an average.

But, you know all that.

1340. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 21:33:44 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF8A87B48898notnowneverorg@127.0.0.1>
Source record: 4841

" W4NNG" <mh@soalex.us> wrote in
news:UFhAj.20559$yk5.18269@newsfe18.lga:

> Like Mike, I also have the MFJ-1800. And boy was I
> surprised when none of my shack full of type N to SMA
> adapters didn't work. I can't believe they reversed the
> polarity of the center pins for WIFI SMA connectors.
> Urrrrgh

Whatch out MFJ, here comes my soldering gun :-)

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "

1341. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 21:35:42 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF8A8D089304notnowneverorg@127.0.0.1>
Source record: 4842

```
Just another one to break.
>
> The rule gets about as much respect as laws against
> jaywalking, littering, or cussing in South Pasadena during
> the first week of March, but it's on the books
> ne'ertheless.
>

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "
```

1342. Re: using a microwave tester to measuer WiFi EIRP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 21:50:14 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <is90irkkl1@dont-email.me>
Source record: 4843

On 6/2/2011 2:43 PM, Jim Lux wrote:
> On 6/2/2011 11:07 AM, John S wrote:
>
>>
>> In addition to that, I think the emission is frequency-hopping and may
>> have a duty factor associated with the scheme. I think he may need a
>> peak-power capture scheme.
>
> It doesn't hop, per se, but it does pulse.
>
>>
>> Also, how is a field strength meter calibrated for emitted power with
>> all the variables involved?
>
>
> It isn't..
>
> The field strength meter measures power density (W/sq meter) or field
> (V/m), and you have to figure out how that relates back to transmitted
> power.
>
> The OP wasn't actually reading it in power, he was using the meter as a
> sort of transfer standard. i.e. say it reads linearly in relative power
> from 0-100. You put a known 1 W source at 10 feet, and it reads, say, 88.
>
> You put your unknown at 10 feet, and it reads, say, 44, so you calculate
> that the source must have been 1/2 Watt.
>
> The problem is that you're really making more of an ERP (Tx power +
> antenna effects) measurement assuming an isotropic source/meter, which
> can easily have 10 dB of error from a variety of factors.

I tried to cancel my last post but it may not have done so.

In thinking more about it, I have to agree. Especially in light of your
allowance of the 10 dB.

So, in summary, excellent reply.

73,
John

1343. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-02 23:04:07 UTC
From: dplatt@radagast.org
Message-ID: <7ghlb8-c5d.ln1@radagast.org>
Source record: 4844

> Like Mike, I also have the MFJ-1800. And boy was I
> surprised when none of my shack full of type N to SMA
> adapters didn't work. I can't believe they reversed the
> polarity of the center pins for WIFI SMA connectors.
> Urrrrgh

That's due to an FCC requirement. The FCC says (or used to say) that the antennas on consumer-type Part 15 wireless gear had to be "not commonly available" or words to that effect. Reverse-polarity gendering, reversed threads, etc. are all common techniques... and of course, as soon as one is used, it rapidly becomes so popular that it ceases to be "not commonly available" :-)

The specific intent was to try to discourage consumers from changing the antennas on WiFi gear. The certification of WiFi equipment is done on the system as a whole (radio + antenna), and changing to a higher-gain antenna automatically invalidates the certification and makes the WiFi system technically illegal to operate (at least, until it's re-tested and re-certificated with the new antenna).

If I recall correctly, the FCC modified the rules a year or two ago. A system's manufacturer is now allowed to test their system with one or more types of antennas, having different amounts of gain, and publish the gain number for the highest-gain antenna with which the system has been successfully certificated. It's then legal for an installer to substitute a different antenna than the original... as long as the substituted antenna has the same, or lower gain than the highest-gain antenna that the manufacturer has certificated.

These rules are, I suspect, honored far more in the breach than in the observance... and there seem to be very few manufacturers who go to the trouble of publicizing the "highest-gain antenna allowed with this system" information. That's probably going to be done only for high-grade commercial gear, not consumer-grade routers or the like.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

1344. Re: Vertical on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 00:52:06 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <is9b7p$g25$1@dont-email.me>
Source record: 4845

"Jim Lux" wrote in message news:is8pm9$g0t$1@news.jpl.nasa.gov...

On 6/2/2011 10:21 AM, Wayne wrote:
>> I'm looking into mounting a vertical (20 meters and higher freq) on a
>> new patio cover. The cover is made out of 6 inch by 16 foot aluminum
>> channels that interlock edge to edge across a 20 foot width. Each
>> section is powder coated (aka...."painted"), so the sections are most
>> likely not well connected electrically to each other.
>
>I'll bet they're better connected than you think. Are there sheet metal
>screws joining them? what's holding the strips to the frame? Can you put a
>wire/foil tape under the screws. In any case, it would be easy to bond the
>panels together with some short jumpers. I can think of a variety of ways
>to do this, but one of the easiest might be a strip of copper foil tape
>along the 20 foot length. Sand the powder coat away on a spot on each
>"strip", run a stainless sheet metal screw through the copper foil or braid
>and the aluminum. Then glop on something to seal it so it doesn't corrode
>or leak. Butyl roof mastic might be a good thing.
>
Yes, there are various connections with sheet metal strips running across
all the channels, and a self tapping screw into each channel. There are
connections between everything, but a little uncertain as to the quality of
the connections.

>A fancier way would be to get another aluminum strip and spot weld it.

>>
>> I'm considering a 10 foot long H shaped metal structure lying on the
>> cover, with the antenna mounted in the center of the H. Radials are a
>> possible but not desired approach. Any other suggested methods of
>> mounting the antenna/etc.?
>
>You need to seriously think about bonding the roof anyway, so that is your
>best bet.
>
>But, capacitively coupling from something lying on the surface would also
>probably work fairly well. Wide aluminum flashing laid out from your
>antenna base across the top of your corrugations (bend it to fit the
>ridges) and glued down might work pretty well.
>
>If you had, say, 1 foot wide by 10 feet long, and it's 1/8" max distance,
>that's like a capacitor of about 500pF. Put a couple or three of those
>strips and you're doing pretty well. For your frequencies, it's like it's
>actually physically connected.
-

Thanks for the comments. I'm still at the stage of wandering around and planning.

> --Wayne W5GIE
>

1345. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 02:48:31 UTC
From: tom <news4792@taring.org>
Message-ID: <4de84b7f$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4846

On 6/2/2011 1:27 PM, Michael wrote:
>
> Just a quick update. I am seeing some gain with the Lazy H now that
> the feed line exiting the antenna has been moved to a 90 degree angle,
> but I don't think I am seeing the 5.9 dbd gain promised in the ARRL
> Antenna Handbook. I would guess it is more around 3 or 4 dbd gain
> with 1/2 wave length elements and 1/2 wave spacing between the top and
> bottom elements. It seems like alot of trouble to go to when an
> extended double zepp at the same height as top wire of the Lazy H
> might do just as well if not better. The plus is the Lazy H may have
> cleaner nulls off the sides which is helping with the occasional AM
> carriers that are coming out of Central and South America.
>
> Michael
>

Just curious, how are you measuring this -2 to -3 dB difference you are
referencing?

tom
K0TAR

1346. Re: using a microwave tester to measuer WiFi EIRP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 02:57:58 UTC
From: tom <news4792@taring.org>
Message-ID: <4de84db6$0$74947$8046368a@newsreader.iphouse.net>
Source record: 4847

On 6/2/2011 12:22 PM, Jim Lux wrote:
> On 6/2/2011 8:25 AM, moronsbegone wrote:
>> I hope I don't sound to ignorant here, too often thats the
>> case.
>> But If you have a known working Wifi AP with a high end
>> reputation like Cisco Airnet model 2400 for instance.
>> They advertize 1 watt, it's one watt no funny bones about it
>> or busnesses wouldn't respect their higher prices and pop for
>> it.
>> Take an EMF meter like the one on Ghost Hunters TV show,
>> radio shack has them, and set it ten feet LOS from the AP
>> [Cisco] wile downloading a big video file or something large,
>> and set that as your "One Watt" point, now you have a
>> comparason, of course notice the Antenna "Type" and location.
>> Heck you can use a cheap NetBook with built in WiFi and
>> NetStumbler software to measure the IF strenth. All you have
>> to be sure of is the output of your "Sample" source.
>> My Alfa USB WiFi unit LIES!!! they claim a half a watt, NO
>> WAY!!! I bet if Cisco built it they wouldn't lie about that
>> stuff, and of course it would cost more than 60 bucks.
>
>
> Uhh.. with the test scheme you describe, there's a ton of things that
> could be perturbing your results: mostly because you're measuring
> radiated power in a single direction, which is connected to RF transmit
> power, but also affected (greatly) by the antenna.
>
> Different Wi-Fi implementations may have the same RF transmitter power,
> but have different transmit duty cycles. Your meter is doing some sort
> of time averaging.
>
> The antenna performance on your two units under test is probably
> radically different. The little USB pods often have a small antenna
> which has lower efficiency.
>
> I doubt your inexpensive meter has uniform response in all directions
> and all polarizations.
>
> You could start to compensate for a lot of the latter by making multiple
> measurements at different positions separated by, say, 5cm (2") moving
> the meter by, say, 2 or 3 feet vertically, and 2 or 3 feet horizontally.
>
> Anyway, measuring transmit power in the far field with an meter with
> unknown spatial and polarization response is trickier than it seems.

>

And even the cheapest units on the market have MIMO. 59USD is the cheapest I have seen, but they could be cheaper.

For those that have never heard of MIMO it's a way of encoding more information on the same frequency by having multiple antennas spatially separated on 1 or both ends.

The upshot here is that once the unit has multiple antennas it not only can spatially encode it, it can also beam it.

tom
K0TAR

1347. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 03:03:29 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <4aYFp.24459$iv4.18678@newsfe09.iad>
Source record: 4848

Walt, you continue to amaze me with your apparently wonderful and extensive knowledge
with antennas and transmission lines. I look forward to finding threads where you have
entered a discussion on some topic or other. I have been a Ham since 1958. I've studied,
and read lots on the subject and always wished, but was never able to really understand the
aforementioned topics to any degree. I've built and played around with many antennas over the years.
Reading this newsgroup and many of the discussions has taught me a lot, but your ability to relate various
aspects which might to me be seemingly unrelated, and put them into words which are both meaningful
and understandable blows my mind. Your replies advising Michael on just this thread alone have been
great.

I've been meaning to say this for years -- now here it is --
Thanks for being around and sharing your goodies with us all.

Irv
VE6BP

"walt" <walt@w2du.com> wrote in message
news:c9072e6a-3ec2-427b-a98a-0a0f0e3cbb2f@m10g2000yqd.googlegroups.com...
On May 30, 9:31 pm, Michael <goo...@shadowstorm.com> wrote:
> Thanks for your input Walt, but I already thought of those things.
> I definitely made the antenna correctly. According to the ARRL
> handbook when center feeding the Lazy H increasing the spacing beyond
> 1/2 wave makes the gain go up until the spacing reaches 5/8ths wave.
> The handbooks states 5.9 dbd gain for 1/2 wave spacing and 6.7 dbd for
> 5/8ths wave spacing. In the real world this antenna does not have any
> gain over a 1/2 wave dipole when center fed with 450 ohm ladder line
> all the way back to the tuner. The phasing was correct. On 14 MHz
> where it becomes two stacked dipoles the SWR comes down and the
> performance goes up, but on 28 MHz it consistently lags behind a
> dipole. I rebuilt this antenna twice. If you actually go to the
> trouble of making one for 10 meters, and compare it to a real world 28
> Mhz 1/2 wave dipole, the Lazy H will fall far short of the predicted
> gain.
> I have been a ham since 1986. I wondered why I had heard so few
> hams using a Lazy H, and the one time I recalled hearing one the

> signal was weaker than the other hams using a dipole. I assumed at
> the time that I must have been off the side of the other ham's Lazy H,
> but after my real world test who knows.
> I'm going to remove the center feed from the antenna this week, and
> rework the Lazy H for end feed with a twist, a matching stub, and 1/2
> wave spacing. Hopefully the end fed version of the Lazy H will live
> up to it's text book gain. I'd really like to have that 6 dbd gain
> along with the nulls off the sides,
>
> Michael Rawls
> KS4HY
>
> On May 30, 5:48 pm, walt <w...@w2du.com> wrote:
>
>
>
>
>
>
>
>
> > On May 30, 2:44 pm, Baron <ba...@linuxmaniac.net> wrote:
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> > > Michael Inscribed thus:
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> > > > Well I've worked with the center fed Lazy H antenna design on 10
> > > > meters for several few weeks now. I tried 1/2 wave spacing between
> > > > the top and bottom elements, 5/8th wave spacing between the top and
> > > > bottom elements, I put it up at 40 feet and 50 feet at the top wire,
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> > > > tried different lengths of 450 ohm feed-line, and this antenna
> > > > consistently under performs a 1/2 wave dipole cut for the same
> > > > frequency. A simple 1/2 wave dipole consistently out performs the
> > > > center fed version of Lazy H antenna even when the Lazy H is given a
> > > > 20 foot height advantage over the lowly dipole. I even put up the
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> > > > H in two completely different locations over 180 miles apart. I also
> > > > tried two completely different antenna tuners (Dentron MT-3000a and
> > > > Drake MN-75 with the 4:1 balun installed). Out of over 200 A/B test
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> > > > The next day when the propagation was back I heard the same station
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> > > > the same frequency and the dipole out performed the Lazy H for the
> > > > rest of the day. I'm not sure what special propagation mode is
> > > > required for the Lazy H to have some gain through some pin hole
> > > > direction, but the version of the Lazy H center fed with 450 ohm
> > > > ladder line back to the antenna tuner is a complete failure. I even
> > > > re-built the antenna from scratch using a different piece 450 ladder
> > > > line for the inter connecting piece. I also verified the length of

> > > > each 1/2 wave section with a tape measure. I verified with an ohm
> > > > meter that the top left element was connected to the bottom left
> > > > element and the right top element was connected to the bottom right
> > > > element. I verified there was no unexpected connectivity between the
> > > > left and right elements, and I verified both sides of the ladder
> > > > line
> > > > were connected back to the antenna tuner. I made sure there was no
> > > > twist in the ladder line connecting the top and bottom elements.
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> > > > foot height advantage on10 meters.
> > > > Before any of you reply with charts and graphs from EZNEC software,
> > > > turn off your computer, go out in the back yard, and actually build
> > > > a
> > > > center fed Lazy H antenna with 450 ladder line all the way back to
> > > > the
> > > > antenna tuner. Then do real world A/B comparisons with a plain old
> > > > mono band dipole cut for the same frequency, and you will find I am
> > > > telling the truth. The center fed Lazy H does not have any gain over
> > > > a 1/2 wave dipole broadside to the antenna. None.
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> > > > Here is what you will fine if you actually build the center fed Lazy
> > > > H
> > > > and compare it to a 1/2 wave mono band dipole cut for the same same
> > > > frequency;
>
> > > > 1) Your tuner will have to use extreme setting to match the Lazy H.
> > > > 2) In some instances the tuner will not be able to match the Lazy H
> > > > depending on the length of the ladder line feeding the antenna. You
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> > > > the Lazy H to get your antenna tuner to match it.
> > > > 3) A 1/2 wave dipole will beat the Lazy H 99.99 percent of the time
> > > > in
> > > > it's favored direction even if the Lazy H is given a 20 foot height
> > > > advantage over the dipole.
> > > > 4) An extended double zepp with a 450 ohm matching section back to a
> > > > 1:1 balun and then to 50 ohm coax cut for the same frequency and
> > > > hung
> > > > from the same ropes previously used to support the Lazy H will blow
> > > > the Lazy H in the dirt.
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> > > > In a nutshell, this antenna sucks!
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> > > > Michael Rawls
> > > > KS4HY
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> > > Tried mounting it horizontally ?
>
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> > > Best Regards:
> > > Baron.
>
> > Hi Michael,
>
> > I'm sorry to hear you think the lazy-H sucks. I used one on 20m years
> > ago and it worked just fine--and no trouble in matching it with a
> > tuner.
>
> > However, I have a suggestion: Let's say you space the upper and lower
> > radiating elements by 180°, which is 1/2wl. If you now use 450-ohm
> > window line, the velocity factor for the line attaching the two
> > elements together makes the electrical length of the line greater than
> > 1/2wl, which means the phasing between the upper and lower elements is
> > no longer correct, and therefore will not provide the expected gain.
> > I'm not sure how much phasing error that will produce, but it's an
> > issue you should consider. Correctly constructed, the lazy-H will
> > definitely out perform a 1/2wl dipole, so if it doesn't for you there
> > is sum ting definitely wong!
>
> > If you feed at the center of the line connecting the two radiating
> > elements the phasing will be correct regardless of the velocity
> > factor, because the length from the center feed point on the
> > connecting line will be the same from that point to each radiating
> > element. With this configuration of feeding don't put a twist in the
> > connecting line--the two radiating elements MUST be fed IN PHASE! If
> > they're fed out of phase the array will look like an Adcock direction-
> > finding antenna, with a deep null in the radiation pattern in the
> > broadside direction.
>
> > Just my thoughts,
>
> > Walt, W2DU

One other thought, Michael, is that if you made the lazy-H with 1/2wl spacing for 20m and then use it on 10m, the spacing is now 1wl. I haven't seen any figures for that spacing, but isn't it possible that with that spacing the gain might not be what you expect? Especially if it works properly on 20m?

Walt

1348. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 10:43:37 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <isadsp$kn1$1@ra.nrl.navy.mil>
Source record: 4849

On 06/02/2011 12:36 PM, moronsbegone wrote:

> If I could find a lower end name "Repeater" capable AP point
> unit like a NetGear or similar and program it to autologon to
> unprotected WiFi access points That would Kick butt.
> Thats called promiscuous mode but has moral issues.

Hello, and moral issues aside for the moment, you'll probably discover very quickly that unlike a few years ago most, if not all, Wi-Fi access points/cable routers in your area these days are probably protected either by WEP (old) or WPA-2. (A Wi-Fi laptop with a network scan utility will usually indicate protected/open networks). And even many of those with older equipment have gotten wise.

The newer boxes usually have the protection turned on out-of-the-box with a password (changeable by the user/administrator). Older boxes had WEP turned off by default and a lot of users just plugged them in and never bothered to read the user guide and/or turn on the protection.
Sincerely, and 73s from N4GGO,

--
J. B. Wood e-mail: arl_123234@hotmail.com

1349. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 10:50:42 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <isaea3krf1@ra.nrl.navy.mil>
Source record: 4850

On 06/03/2011 06:43 AM, J.B. Wood wrote:
> On 06/02/2011 12:36 PM, moronsbegone wrote:
>
>> If I could find a lower end name "Repeater" capable AP point
>> unit like a NetGear or similar and program it to autologon to
>> unprotected WiFi access points That would Kick butt.
>> Thats called promiscuous mode but has moral issues.
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> Hello, and moral issues aside for the moment, you'll probably discover
> very quickly that unlike a few years ago most, if not all, Wi-Fi access
> points/cable routers in your area these days are probably protected
> either by WEP (old) or WPA-2. (A Wi-Fi laptop with a network scan
> utility will usually indicate protected/open networks). And even many of
> those with older equipment have gotten wise.
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> The newer boxes usually have the protection turned on out-of-the-box
> with a password (changeable by the user/administrator). Older boxes had
> WEP turned off by default and a lot of users just plugged them in and
> never bothered to read the user guide and/or turn on the protection.
> Sincerely, and 73s from N4GGO,
>

Hello, and I forgot to add that if your objective is to access public
Wi-Fi (which is usually unprotected) at a distance then have at it.
Sort of like stationary war driving. My previous comments pertained to
accessing private/home Wi-Fi nets. Sincerely,

--
J. B. Wood e-mail: arl_123234@hotmail.com

1350. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 11:00:47 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <isaesv$l03$1@ra.nrl.navy.mil>
Source record: 4651

Hello once more. One last thing to add is that even if one installs a high-gain Wi-Fi antenna, depending on the distance to the source, you probably won't have clear line-of-sight and subject to multipath problems. The network might show a "4 green bars" signal strength one moment and be yellow, red, or out the next). Sincerely,

--
J. B. Wood e-mail: arl_123234@hotmail.com

1351. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 13:10:34 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <a101858c-acd9-4afd-807f-c3baa839f7d9@g24g2000vbz.googlegroups.com>
Source record: 4652

I'm definitely using a less than scientific method, so don't take my
estimation as solid proof. It is just a guess at best.

Michael

On Jun 2, 10:48 pm, tom <news4...@taring.org> wrote:
> On 6/2/2011 1:27 PM, Michael wrote:
>
>
>
> > Just a quick update. I am seeing some gain with the Lazy H now that
> > the feed line exiting the antenna has been moved to a 90 degree angle,
> > but I don't think I am seeing the 5.9 dbd gain promised in the ARRL
> > Antenna Handbook. I would guess it is more around 3 or 4 dbd gain
> > with 1/2 wave length elements and 1/2 wave spacing between the top and
> > bottom elements. It seems like alot of trouble to go to when an
> > extended double zepp at the same height as top wire of the Lazy H
> > might do just as well if not better. The plus is the Lazy H may have
> > cleaner nulls off the sides which is helping with the occasional AM
> > carriers that are coming out of Central and South America.
>
> > Michael
>
> Just curious, how are you measuring this -2 to -3 dB difference you are
> referencing?
>
> tom
> K0TAR

1352. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 13:14:51 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <001e7f11-82ae-4d77-924c-664e7d276486@bl1g2000vbb.googlegroups.com>
Source record: 4653

On Jun 2, 11:03 pm, "Irv Finkleman" <fink...@shaw.ca> wrote:
> Walt, you continue to amaze me with your apparently wonderful and extensive
> knowledge
> with antennas and transmission lines. I look forward to finding threads
> where you have
> entered a discussion on some topic or other. I have been a Ham since 1958.
> I've studied,
> and read lots on the subject and always wished, but was never able to really
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> aforementioned topics to any degree. I've built and played around with many
> antennas over the years.
> Reading this newsgroup and many of the discussions has taught me a lot, but
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> aspects which might to me be seemingly unrelated, and put them into words
> which are both meaningful
> and understandable blows my mind. Your replies advising Michael on just
> this thread alone have been
> great.
>
> I've been meaning to say this for years -- now here it is --
> Thanks for being around and sharing your goodies with us all.
>
> Irv
> VE6BP
>
> "walt" <w...@w2du.com> wrote in message
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> news:c9072e6a-3ec2-427b-a98a-0a0f0e3cbb2f@m10g2000yqd.googlegroups.com...
> On May 30, 9:31 pm, Michael <goo...@shadowstorm.com> wrote:
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> > Thanks for your input Walt, but I already thought of those things.
> > I definitely made the antenna correctly. According to the ARRL
> > handbook when center feeding the Lazy H increasing the spacing beyond
> > 1/2 wave makes the gain go up until the spacing reaches 5/8ths wave.
> > The handbooks states 5.9 dbd gain for 1/2 wave spacing and 6.7 dbd for
> > 5/8ths wave spacing. In the real world this antenna does not have any
> > gain over a 1/2 wave dipole when center fed with 450 ohm ladder line
> > all the way back to the tuner. The phasing was correct. On 14 MHz
> > where it becomes two stacked dipoles the SWR comes down and the
> > performance goes up, but on 28 MHz it consistently lags behind a
> > dipole. I rebuilt this antenna twice. If you actually go to the

> > trouble of making one for 10 meters, and compare it to a real world 28
> > Mhz 1/2 wave dipole, the Lazy H will fall far short of the predicted
> > gain.
> > I have been a ham since 1986. I wondered why I had heard so few
> > hams using a Lazy H, and the one time I recalled hearing one the
> > signal was weaker than the other hams using a dipole. I assumed at
> > the time that I must have been off the side of the other ham's Lazy H,
> > but after my real world test who knows.
> > I'm going to remove the center feed from the antenna this week, and
> > rework the Lazy H for end feed with a twist, a matching stub, and 1/2
> > wave spacing. Hopefully the end fed version of the Lazy H will live
> > up to it's text book gain. I'd really like to have that 6 dbd gain
> > along with the nulls off the sides,
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> > Michael Rawls
> > KS4HY
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> > On May 30, 5:48 pm, walt <w...@w2du.com> wrote:
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> > > On May 30, 2:44 pm, Baron <ba...@linuxmaniac.net> wrote:
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> > > > > meters for several few weeks now. I tried 1/2 wave spacing between
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> > > > > the Lazy H in the dirt.
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> > > > > In a nutshell, this antenna sucks!
>
> > > > > Michael Rawls
> > > > > KS4HY
>

> > > > Tried mounting it horizontally ?
>
> > > > --
> > > > Best Regards:
> > > > Baron.
>
> > > Hi Michael,
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> > > I'm sorry to hear you think the lazy-H sucks. I used one on 20m years
> > > ago and it worked just fine--and no trouble in matching it with a
> > > tuner.
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> > > However, I have a suggestion: Let's say you space the upper and lower
> > > radiating elements by 180ï¿½, which is 1/2wl. If you now use 450-ohm
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> spacing for 20m and then use it on 10m, the spacing is now 1wl. I
> haven't seen any figures for that spacing, but isn't it possible that
> with that spacing the gain might not be what you expect? Especially if
> it works properly on 20m?
>
> Walt

This Lazy H is specifically made for 10 meters, the summer Sporadic E
season, and the steadily climbing solar flux. I almost never use 20
meters.

Michael
KS4HY

1353. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 15:04:13 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF96670ABDCDnotnowneverorg@127.0.0.1>
Source record: 4654

```
----snip2save-----------
Recieving them is one thing but transmitting a good signal
back to them is another, so I am finding out the hard way :-(
>>
>
> chuck a USB WiFi Dongle at the focal point and see how
> far/many WiFi routers you can hit?
>
> Regards,
> JS
>
>

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "
```

1354. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 15:24:04 UTC
From: walt <walt@w2du.com>
Message-ID: <487c9c1f-b871-40f6-b594-a33cdb5da5e7@k3g2000prl.googlegroups.com>
Source record: 4655

On Jun 3, 9:14 am, Michael <goo...@shadowstorm.com> wrote:
> On Jun 2, 11:03 pm, "Irv Finkleman" <fink...@shaw.ca> wrote:
>
>
>
>
>
>
>
>
>
>
> > Walt, you continue to amaze me with your apparently wonderful and extensive
> > knowledge
> > with antennas and transmission lines. I look forward to finding threads
> > where you have
> > entered a discussion on some topic or other. I have been a Ham since 1958.
> > I've studied,
> > and read lots on the subject and always wished, but was never able to really
> > understand the
> > aforementioned topics to any degree. I've built and played around with many
> > antennas over the years.
> > Reading this newsgroup and many of the discussions has taught me a lot, but
> > your ability to relate various
> > aspects which might to me be seemingly unrelated, and put them into words
> > which are both meaningful
> > and understandable blows my mind. Your replies advising Michael on just
> > this thread alone have been
> > great.
>
> > I've been meaning to say this for years -- now here it is --
> > Thanks for being around and sharing your goodies with us all.
>
> > Irv
> > VE6BP
>
> > "walt" <w...@w2du.com> wrote in message
>
> >news:c9072e6a-3ec2-427b-a98a-0a0f0e3cbb2f@m10g2000yqd.googlegroups.com...
> > On May 30, 9:31 pm, Michael <goo...@shadowstorm.com> wrote:
>
> > > Thanks for your input Walt, but I already thought of those things.
> > > I definitely made the antenna correctly. According to the ARRL
> > > handbook when center feeding the Lazy H increasing the spacing beyond

> > > 1/2 wave makes the gain go up until the spacing reaches 5/8ths wave.
> > > The handbooks states 5.9 dbd gain for 1/2 wave spacing and 6.7 dbd for
> > > 5/8ths wave spacing. In the real world this antenna does not have any
> > > gain over a 1/2 wave dipole when center fed with 450 ohm ladder line
> > > all the way back to the tuner. The phasing was correct. On 14 MHz
> > > where it becomes two stacked dipoles the SWR comes down and the
> > > performance goes up, but on 28 MHz it consistently lags behind a
> > > dipole. I rebuilt this antenna twice. If you actually go to the
> > > trouble of making one for 10 meters, and compare it to a real world 28
> > > Mhz 1/2 wave dipole, the Lazy H will fall far short of the predicted
> > > gain.
> > > I have been a ham since 1986. I wondered why I had heard so few
> > > hams using a Lazy H, and the one time I recalled hearing one the
> > > signal was weaker than the other hams using a dipole. I assumed at
> > > the time that I must have been off the side of the other ham's Lazy H,
> > > but after my real world test who knows.
> > > I'm going to remove the center feed from the antenna this week, and
> > > rework the Lazy H for end feed with a twist, a matching stub, and 1/2
> > > wave spacing. Hopefully the end fed version of the Lazy H will live
> > > up to it's text book gain. I'd really like to have that 6 dbd gain
> > > along with the nulls off the sides,
>
> > > Michael Rawls
> > > KS4HY
>
> > > On May 30, 5:48 pm, walt <w...@w2du.com> wrote:
>
> > > > On May 30, 2:44 pm, Baron <ba...@linuxmaniac.net> wrote:
>
> > > > > Michael Inscribed thus:
>
> > > > > > Well I've worked with the center fed Lazy H antenna design on 10
> > > > > > meters for several few weeks now. I tried 1/2 wave spacing between
> > > > > > the top and bottom elements, 5/8th wave spacing between the top and
> > > > > > bottom elements, I put it up at 40 feet and 50 feet at the top wire,
> > > > > > I
> > > > > > tried different lengths of 450 ohm feed-line, and this antenna
> > > > > > consistently under performs a 1/2 wave dipole cut for the same
> > > > > > frequency. A simple 1/2 wave dipole consistently out performs the
> > > > > > center fed version of Lazy H antenna even when the Lazy H is given a
> > > > > > 20 foot height advantage over the lowly dipole. I even put up the
> > > > > > Lazy
> > > > > > H in two completely different locations over 180 miles apart. I also
> > > > > > tried two completely different antenna tuners (Dentron MT-3000a and
> > > > > > Drake MN-75 with the 4:1 balun installed). Out of over 200 A/B test
> > > > > > the Lazy H antenna only out performed the dipole on one test with a
> > > > > > station in Texas just before the propagation faded out for the day,
> > > > > > The next day when the propagation was back I heard the same station
> > > > > > on
> > > > > > the same frequency and the dipole out performed the Lazy H for the

> > > > > > rest of the day. I'm not sure what special propagation mode is
> > > > > > required for the Lazy H to have some gain through some pin hole
> > > > > > direction, but the version of the Lazy H center fed with 450 ohm
> > > > > > ladder line back to the antenna tuner is a complete failure. I even
> > > > > > re-built the antenna from scratch using a different piece 450 ladder
> > > > > > line for the inter connecting piece. I also verified the length of
> > > > > > each 1/2 wave section with a tape measure. I verified with an ohm
> > > > > > meter that the top left element was connected to the bottom left
> > > > > > element and the right top element was connected to the bottom right
> > > > > > element. I verified there was no unexpected connectivity between the
> > > > > > left and right elements, and I verified both sides of the ladder
> > > > > > line
> > > > > > were connected back to the antenna tuner. I made sure there was no
> > > > > > twist in the ladder line connecting the top and bottom elements.
> > > > > > I would like to petition the ARRL to remove the center fed Lazy H
> > > > > > from the antenna handbook as it clearly does not work as specified.
> > > > > > A
> > > > > > lowly mono band dipole on the same design frequency will
> > > > > > consistently
> > > > > > out perform the center feed Lazy H even when the Lazy H is given a
> > > > > > 20
> > > > > > foot height advantage on10 meters.
> > > > > > Before any of you reply with charts and graphs from EZNEC software,
> > > > > > turn off your computer, go out in the back yard, and actually build
> > > > > > a
> > > > > > center fed Lazy H antenna with 450 ladder line all the way back to
> > > > > > the
> > > > > > antenna tuner. Then do real world A/B comparisons with a plain old
> > > > > > mono band dipole cut for the same frequency, and you will find I am
> > > > > > telling the truth. The center fed Lazy H does not have any gain over
> > > > > > a 1/2 wave dipole broadside to the antenna. None.
>
> > > > > > Here is what you will fine if you actually build the center fed Lazy
> > > > > > H
> > > > > > and compare it to a 1/2 wave mono band dipole cut for the same same
> > > > > > frequency;
>
> > > > > > 1) Your tuner will have to use extreme setting to match the Lazy H.
> > > > > > 2) In some instances the tuner will not be able to match the Lazy H
> > > > > > depending on the length of the ladder line feeding the antenna. You
> > > > > > may have to increase or decrease the length of the ladder line
> > > > > > feeding
> > > > > > the Lazy H to get your antenna tuner to match it.
> > > > > > 3) A 1/2 wave dipole will beat the Lazy H 99.99 percent of the time
> > > > > > in
> > > > > > it's favored direction even if the Lazy H is given a 20 foot height
> > > > > > advantage over the dipole.
> > > > > > 4) An extended double zepp with a 450 ohm matching section back to a
> > > > > > 1:1 balun and then to 50 ohm coax cut for the same frequency and
> > > > > > hung

> > > > > > from the same ropes previously used to support the Lazy H will blow
> > > > > > the Lazy H in the dirt.
>
> > > > > > In a nutshell, this antenna sucks!
>
> > > > > > Michael Rawls
> > > > > > KS4HY
>
> > > > > Tried mounting it horizontally ?
>
> > > > > --
> > > > > Best Regards:
> > > > > Baron.
>
> > > > Hi Michael,
>
> > > > I'm sorry to hear you think the lazy-H sucks. I used one on 20m years
> > > > ago and it worked just fine--and no trouble in matching it with a
> > > > tuner.
>
> > > > However, I have a suggestion: Let's say you space the upper and lower
> > > > radiating elements by 180ï¿½, which is 1/2wl. If you now use 450-ohm
> > > > window line, the velocity factor for the line attaching the two
> > > > elements together makes the electrical length of the line greater than
> > > > 1/2wl, which means the phasing between the upper and lower elements is
> > > > no longer correct, and therefore will not provide the expected gain.
> > > > I'm not sure how much phasing error that will produce, but it's an
> > > > issue you should consider. Correctly constructed, the lazy-H will
> > > > definitely out perform a 1/2wl dipole, so if it doesn't for you there
> > > > is sum ting definitely wong!
>
> > > > If you feed at the center of the line connecting the two radiating
> > > > elements the phasing will be correct regardless of the velocity
> > > > factor, because the length from the center feed point on the
> > > > connecting line will be the same from that point to each radiating
> > > > element. With this configuration of feeding don't put a twist in the
> > > > connecting line--the two radiating elements MUST be fed IN PHASE! If
> > > > they're fed out of phase the array will look like an Adcock direction-
> > > > finding antenna, with a deep null in the radiation pattern in the
> > > > broadside direction.
>
> > > > Just my thoughts,
>
> > > > Walt, W2DU
>
> > One other thought, Michael, is that if you made the lazy-H with 1/2wl
> > spacing for 20m and then use it on 10m, the spacing is now 1wl. I
> > haven't seen any figures for that spacing, but isn't it possible that
> > with that spacing the gain might not be what you expect? Especially if
> > it works properly on 20m?

>
> > Walt
>
> This Lazy H is specifically made for 10 meters, the summer Sporadic E
> season, and the steadily climbing solar flux. I almost never use 20
> meters.
>
> Michael
> KS4HY

Thank you Irv, for the nice words you posted about me. I was fortunate to have been an antenna engineer with RCA for 31 years, where I was surrounded with professionals who were in the top echelon of antenna developers. I've had no other formal training in engineering other than my close association with them, and studying their voluminous text books. Learning as a ham (78 yrs continually licensed since 1933) is clearly the root of my engineering knowledge.

Do you have a copy of my book, "Reflections--Transmission Lines and Antennas? If not, some of the chapters from the book are available for downloading at my web page at www.w2du.com.

Thanks again, Irv,

Walt, W2DU

1355. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 17:38:19 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isb66c$r9o$6@dont-email.me>
Source record: 4656

On 6/3/2011 8:04 AM, moronsbegone wrote:
> ----snip2save----------
> Recieving them is one thing but transmitting a good signal
> back to them is another, so I am finding out the hard way :-(
>>>
>>
>> chuck a USB WiFi Dongle at the focal point and see how
>> far/many WiFi routers you can hit?
>>
>> Regards,
>> JS
>>
>>

I used to have a 1 watt USB dongle, came from china ...

I am thinking you might still be able to locate one on ebay?

Anyway, let me know what you find. I am going to be setting up a long range link in the near future, for a friend.

Regards,
JS

1356. Re: Parabolic Dish Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 19:50:34 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF996FD4934Dnotnowneverorg@127.0.0.1>
Source record: 4657

DEAD LINK

> http://www.w1ghz.cx/software/hdl_3b4.zip

--
Quote "Get SSL VPN services now, KEEP Government OUT of your
business... "

1357. Re: Parabolic Dish Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 20:17:10 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrniuiga6.1bnr.knock_yourself_out@shell.config.com>
Source record: 4658

On Fri, 03 Jun 2011 14:50:34 -0500, moronsbegone wrote:
> DEAD LINK
>
>> http://www.w1ghz.cx/software/hdl_3b4.zip

Ya think? Every link there == "This domain may be for sale"

1358. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-03 22:24:36 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <93niu6d304b6gcold1meudmorvc4h6shbh@4ax.com>
Source record: 4659

On Fri, 03 Jun 2011 10:04:13 -0500, moronsbegone <NoThanx@never.org>
wrote:

>----snip2save-----------
>Recieving them is one thing but transmitting a good signal
>back to them is another, so I am finding out the hard way :-(

Could the relationship between time and distance problem be impacting
performance? Every other influencing parameter appears to be a
constant. Lengthening the timeout on your end might provide a
solution.

1359. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 01:06:03 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <WxfGp.12$_z3.3@newsfe04.iad>
Source record: 4660

Do you have a copy of my book, "Reflections--Transmission Lines and
Antennas? If not, some of the chapters from the book are available for
downloading at my web page at www.w2du.com.

Thanks again, Irv,

Walt, W2DU

Wow! Impressive resume Walt. It's funny you should ask about 'Refections'.
I never had the book, but did download
and study the available chapters from your website.

Due to some pretty serious illness and surgery during the past two years I
had to sell my house. At the same time my
prognosis was so limited that I gave away all my equipment, tools, parts,
and books -- most of it to other hams as well
as our local radio club. I had more antenna books than anything. We never
dreamed I would be in condition to operate
a station again and it wasn't easy giving up one of my great loves in
life -- HAM RADIO!

As per Murphy's Laws, my recovery was remarkable, but I had to move into a
seniors residence where nursing
assistance was available, and since then I have had restorative surgery and
am in pretty good condition again.
I am now ready to resume my participation in the hobby, but in a very
downsized manner. I just bought a
Yaesu FT-817ND (an all band/mode QRP rig, the only rig I ever bought brand
new) and am
in the process of building a magnetic loop antenna which I can cleverly
conceal on my balcony.
Basically it is a very simple project, considering the fact that I will be
operating either 5w or 2.5w
and do not have to go overboard on a HV tuning cap. I've always
been a low power operator, knowing that with a little operating skill, and a
'decent' antenna you don't need
a lot to have a bundle of fun. The snow has just cleared from my area
(Calgary, Alberta) and I should be up
and operating pretty soon (as soon as I can concoct a simple insulated
coupling between the tuning cap
drive motor and the capacitor). The principles of the magnetic loop are
simple, and I have been able to
download lots of good hints and kinks over the net -- more than I need.

So I'm a long way from dead, and looking forward to resuming the hobby which has kept me fully
occupied for many years.

I've helped many fellow hams with invisible antennas -- now it's my turn and I'm approaching it
with a very optomistic outlook. Starting over is not difficult -- once you have the knowledge, the
rest is easy. Maybe we'll meet around the bands someday.

Thanks again for all you've given to the hobby! Ohm's Law was easy, but we needed folks like
you for the antenna understanding.

Irv, VE6BP

1360. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 01:25:54 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF9CFDDB1716notnowneverorg@127.0.0.1>
Source record: 4661

John Smith <bit_bucket@gmx.com> wrote in
news:isb66c$r9o$6@dont-email.me:

> On 6/3/2011 8:04 AM, moronsbegone wrote:
>> ----snip2save----------
>> Recieving them is one thing but transmitting a good signal
>> back to them is another, so I am finding out the hard way
>> :-(
>>>>
>>>
>>> chuck a USB WiFi Dongle at the focal point and see how
>>> far/many WiFi routers you can hit?
>>>
>>> Regards,
>>> JS
>>>
>>>
>
> I used to have a 1 watt USB dongle, came from china ...
>
> I am thinking you might still be able to locate one on
> ebay?
>
> Anyway, let me know what you find. I am going to be
> setting up a long range link in the near future, for a
> friend.
>
> Regards,
> JS
>
>

I appreciate the reply, it seems my Alfa watt [bs-rating=
1/10 watt] is making the grade with 4 access points reliably
so it's just the little boy ego in me that seems spoiled when
110 access points are showing up and only a handful can hear
me. Then again it's real crowded here and channel bleeding or
some other 'Over crowded' phenomenon is dissing my male ego. I
sort of feel like a dumb truck driver running 1500 watts to
talk to the driver behind me9 In respect to the industry and
moral conscience I do not want to splatter my neighbors with a
gazillion watts and make their 5 bar connections slow because
of me and rf splatter. You guys know so much more then I it
isn't funny, don't want to sound like a moron but this "Dish"

theory is a hidden treasure right under everyone's nose and it amazes me that just putting a retired Dish Network disk 13" behind the Alfa USB WiFi with the 3 DB gain Vertical ground antenna on it gives me a 5 bar signal from what used to be a 1. The reason I am picking on this one AP is that I have the owners blessing to use it, so why not focus on the legal one. Sure I am willing to hack a stranger's one if I have to, but here is a case where I don't, so I won't. But up till now his signal was week, now it's good, but experimenting with the other unsecured AP's there are some that are 3 bars and can not get a handshake for more then 10 seconds at 1 MBPS Then PWAfffffffft!!! I am bumped off then on then off then on&#65533; Weird I say.
But it has all the symptoms of an Elephant base station, all ears no mouth, and I am Irish I don't take custom to things that way, generally the other way around LoL.
But I don't want to be a CB Rambo moron and ruin it for everyone else; I am on line at a steady 54 MBPS right now so why bother. Just Ego I guess or interest in the science maybe.
By the way the Dish is Indoors!!! I used to be a HAM, tech license but let it laps years ago. Can't stand the FCC's attitude.

1361. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 01:33:27 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF9D1254ACBDnotnowneverorg@127.0.0.1>
Source record: 4662

Registered User <n4jvp@ix.netcom.com> wrote in
news:93niu6d304b6gcold1meudmorvc4h6shbh@4ax.com:

> On Fri, 03 Jun 2011 10:04:13 -0500, moronsbegone
> <NoThanx@never.org> wrote:
>
>>----snip2save-----------
>>Recieving them is one thing but transmitting a good signal
>>back to them is another, so I am finding out the hard way
>>:-(
>
> Could the relationship between time and distance problem be
> impacting performance? Every other influencing parameter
> appears to be a constant. Lengthening the timeout on your
> end might provide a solution.

I appreciate the reply, it seems my Alfa watt [bs-rating=
1/10 watt] is making the grade with 4 access points reliably
so it's just the little boy ego in me that seems spoiled when
110 access points are showing up and only a handful can hear
me. Then again it's real crowded here and channel bleeding or
some other 'Over crowded' phenomenon is dissing my male ego. I
sort of feel like a dumb truck driver running 1500 watts to
talk to the driver behind me! In respect to the industry and
moral conscience I do not want to splatter my neighbors with a
gazillion watts and make their 5 bar connections slow because
of me and rf or binary packet splatter/collisions. You guys
know so much more then I it isn't funny, don't want to sound
like a moron but this "Dish" theory is a hidden treasure right
under everyone's nose and it amazes me that just putting a
retired Dish Network disk 13" behind the Alfa USB WiFi with
the 3 DB gain Vertical ground antenna on it gives me a 5 bar
signal from what used to be a 1. The reason I am picking on
this one AP is that I have the owners blessing to use it, so
why not focus on the legal one. Sure I am willing to hack a
stranger's one if I have to, but here is a case where I don't,
so I won't. But up till now his signal was week, now it's
good, but experimenting with the other unsecured AP's there
are some that are 3 bars and can not get a handshake for more
then 10 seconds at 1 MBPS
Then PWAfffffffft!!! I am bumped off then on then off then on
Weird I say.
But it has all the symptoms of an Elephant base station, all
ears no mouth, and I am Irish I don't take custom to things

that way, generally the other way around LoL.
But I don't want to be a CB Rambo moron and ruin it for everyone else; I am on line at a steady 54 MBPS right now so why bother. Just Ego I guess or interest in the science maybe.
By the way the Dish is Indoors!!! I used to be a HAM, tech license but let it laps years ago. I can't stand the FCC's attitude. Somewhere in the registry setting I can set the "TimeToLive" string to 128 ms is that what you mean?
I know IP stuff [it's my dreaded job] but the microwave stuff you guys smoke me.

1362. Re: Convert DISH TV antenna for WIFI use. USB or RF FEED?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 02:50:46 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EF9DE412171Fnotnowneverorg@127.0.0.1>
Source record: 4663

Kaz <rowdy1970.UCE@hotmail.com> wrote in
news:lItKg.930$I71.63@trnddc01:

> I am looking for an easy way to convert a standard DISH TV
> offset feed dish for WIFI use. I desire to mount this
> thing on the rooftop for a long distance rural link. I
> need to understand if it would be easier to go the USB
> device route or what the ramifications are to going the
> traditional rf and coax route? I think my install will
> require around 60 to 75 ft of feed line. Could I use a
> wifi "extender" amplifier at midpoint to get past feedline
> losses? If I go the coax route, what would be an easy way
> to feed the dish? Could I use a tiny off-the-shelf
> external wifi antenna inside of a can or do I need to
> homebrew something more extravagant?
>
> If I go the usb device route to feed the dish, how can I
> extend that far?
>
> I do need to connect this to a pc as a NIC or client,
> therefore remote mounting a router wont do the job for me.
>

Well I'm no Ham Pro but Network stuff I can help. You can USB to
the dish up to 75 feet BUT, you have to interrupt the line run
with a USB hub before you reach 30 feet, and for Geeky reasons I
don't understand I have been told that NEVER put the
interrupting USB hub evenly in the middle of a run. Sounds like
you need 2 hubs, each at about 25 feet of USB cable. Or; if you
can get to just under the roof in the attic use a HUB at 25
feet, and then a HUB at almost 30 more feet put a cheap Alfa
WiFi USB dongle or 1 watt model [about 70 bucks] Just under
the antenna, then run 10 feet of the 400 Microwave cable from
the Alfa to the feed horn of the dish. 3 db loss at ten feet. I
am using the 3 DB gain Vertical ground that is popular with the
Alfa USB dongle indoors so it's located AT the feed horn itself,
but in your case the semi USB to near the dish then a RF cable
short run for the antenna will keep the Alfa unit out of the
weather. The Alfa watt ratings are crap; I would do the 1 watt
model if you want at least 300 miliwatts out.
My watt model is struggling to be heard, so 3 bar signals it
can hear but the AP's can't hear me as well [I think].
Could be channel bleed though. If you wanted a lesson on FCC law
you would have asked so I wont go there [to much] and as you

know by my previous posts I don't care, but for your own good be aware you may be pushing the limits. Unlike me if you have a HAM ticket that could be a problem if you get caught. I'm not big on POWER drunkenness anyway, sensitivity and narrow RF beams make more sense and displays intelligence. And the challenge is fun ;-)

1363. Re: NVIS and VHF? (Update)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 04:24:56 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <7d4e2e51-c65d-46e2-b4b0-a2e0e4c46bc8@k15g2000pri.googlegroups.com>
Source record: 4664

On Jun 2, 8:23 am, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> Sal M. Onella said the following on 6/1/2011 10:37 PM:

< snip >

> > How much power are you putting out?
>
> > How well do you hear the repeater; are there times when it fades below
> > squelch while you're listening to other people?
>

>
> My TM-721A is putting out 35 watts. At least that is the spec. The
> repeater is always scratchy and barely readable. I've only had one time
> when it even showed up on the S meter. That was low clouds so I assume
> it was cloud bounce.
>
> --
> 'Captain' Kirk DeHaan

You indicated that you're working other repeaters with ease. Blaming
the trees sounds right.

I think a 2m beam is the way to go. I've used one at Field Day for
ten or so years from south of San Diego and easily worked 100 miles
into Los Angeles, simplex, obviously. The improvement in performance
is dramatic with 15 dBi gain, compared to approx 2 dBi gain of an end-
fed dipole, your j-pole. My two beams were less than 50 dollars
apiece at ham swap meets. Mount with elements vertical.

I just did an experiment and, as I expected, a 10 dB increase in
signal strength took me from unreadable to Q5 copy with tolerable
background hiss. (I used switchable attenuators to set up the signal
test conditions and a distant repeater as the test signal.)

If the repeater is no worse than "barely readable," 10 dB should fix
you up.

By the way, the gain effect is not so great that you'd lose the other
repeaters, unless one just happened to hit a deep null by bad luck.

"Sal"

1364. Re: balcony railing mount for DBS dish

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 08:27:04 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFA23222E92Bnotnowneverorg@127.0.0.1>
Source record: 4665
Cross-posted to: rec.radio.amateur.antenna,rec.video.satellite.dbs,rec.video.satellite.tvro,alt.dss.hack,alt.dbs.echostar.hack

3726414@spamhole.com (Bill) wrote in
news:6eac4d8d.0410111944.5d5b7f96@posting.google.com:

> Hello
>
> I am trying to come up with a "balcony railing mount" for
> use with a Ku-band dish plus dish mover. I have searched
> google and have not found any online dealers which sell
> such a mount.
>
SOLUTION= Hire me to Whack your landlord; Access to roof now
permitted due to offer he couldn't refuse; Problem solved :-)

1365. Re: balcony railing mount for DBS dish

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 08:33:44 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFA2443A5FE9notnowneverorg@127.0.0.1>
Source record: 4666
Cross-posted to: rec.radio.amateur.antenna,rec.video.satellite.dbs,rec.video.satellite.tvro,alt.dss.hack,alt.dbs.echostar.hack

Not only that, If he uses NO nails or drills NO holes for screws
he is not adding to the structure perminantly witch is a no no
[common sense]. I would use a series of clamps, and not leave it
up in bad weather or when I am away , seems as though temporary
would be a better aproach. I'm having alot of luck using mine
indoors LoL.
>>
>>
>> If your landlord wants to be difficult, he can
>> prohibit the railing mounts - legally (assuming you're
>> in the U.S.). The railing is not considered part of
>> the unit or the Exclusive Use area. It is part of the
>> exterior of the building. Even condo CC&Rs that I
>> have seen explicitly state that balcony railings are
>> NOT part of the unit owned or rented. Furthermore, he
>> can prevent it by safety considerations by claiming
>> that it presents a hazard of falling off onto people
>> below. Since approval of a railing mount may pose a
>> liability risk for the building owner, he may bring up
>> the heavy legal artillery against you. If I were
>> in your position, I'd make a cheap tripod and mount
>> the feet in cement blocks (just pour quickset cement
>> into a plastic bucket) on the balcony, and then mount
>> the dish to the tripod.
>>
>> *TimDaniels*
>
>
>

1366. Re: balcony railing mount for DBS dish

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 11:08:10 UTC
From: dave <k1ttt@pstn2.net>
Message-ID: <024217ac-2b44-4f3e-b808-ff8bcacdcfd5@g24g2000vbz.googlegroups.com>
Source record: 4667

On Jun 4, 8:33 am, moronsbegone <NoTh...@never.org> wrote:
> Not only that, If he uses NO nails or drills NO holes for screws
> he is not adding to the structure perminantly witch is a no no
> [common sense]. I would use a series of clamps, and not leave it
> up in bad weather or when I am away , seems as though temporary
> would be a better aproach. I'm having alot of luck using mine
> indoors LoL.
>
>
>
>
>
>
>
>
>
> >>   If your landlord wants to be difficult, he can
> >>   prohibit the railing mounts - legally (assuming you're
> >>   in the U.S.). The railing is not considered part of
> >>   the unit or the Exclusive Use area. It is part of the
> >>   exterior of the building. Even condo CC&Rs that I
> >>   have seen explicitly state that balcony railings are
> >>   NOT part of the unit owned or rented. Furthermore, he
> >>   can prevent it by safety considerations by claiming
> >>   that it presents a hazard of falling off onto people
> >>   below. Since approval of a railing mount may pose a
> >>   liability risk for the building owner, he may bring up
> >>   the heavy legal artillery against you. If I were
> >>   in your position, I'd make a cheap tripod and mount
> >>   the feet in cement blocks (just pour quickset cement
> >>   into a plastic bucket) on the balcony, and then mount
> >>   the dish to the tripod.
>
> >> *TimDaniels*

did you happen to notice that the original thread was over in oct
2004??

1367. hello friends

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 13:18:25 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <7de15357-7a57-4845-889f-8bbd5ebff70a@dn9g2000vbb.googlegroups.com>
Source record: 4668

just visit
www.hotbollywoodactressesno1.blogspot.com

1368. hello friends

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 13:19:10 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <ea39a1aa-002e-4dbe-b5c6-63a65403143c@dq9g2000vbb.googlegroups.com>
Source record: 4669

just visit
www.hotbollywoodactressesno1.blogspot.com

1369. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 14:04:28 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <7d740462-6aab-446c-8899-c699f5373f2f@x3g2000yqj.googlegroups.com>
Source record: 4670

Final verdict on the center fed Lazy H antenna for 10 meters...

I really wanted to like this antenna. I really wanted it to work as stated in the various handbooks. I have checked and re-checked the measurements, and I have double checked the connectivity to make sure the top and bottom elements were being fed in phase. The bottom left element was connected to the top left element. The bottom right element was connected to the top right element. I have done countless A/B/C test with a dipole, an extended double zepp, and the Lazy H all broadside to the same direction on 10 meters. This antenna was specifically cut for 10 meters, and it was installed for horizontal polarization as shown in the ARRL handbook at heights of 40 feet and 50 feet at the top wire. I double checked everything, but the final verdict is not what I had hoped.

Here it is;

In the real world on 10 meters the Lazy H antenna with four half wave elements on 10 meters (two collinear elements on top and two collinear elements on the bottom), half wave spacing between the top and bottom horizontal elements, center fed with 450 ladder line all the way back to the antenna tuner, using a 450 ohm ladder line phasing line to connect the top and bottom elements with no twist was consistently out performed by a 10 meter extended double zepp facing the same direction even when the Lazy H antenna was given a 10 foot height advantage over the extended double zepp. On many occasions the Lazy H was also out performed by the 10 meter dipole dipole. I have not tried the end fed Lazy H design with the 1/4 wave matching stub and the 180 degree twist in the phasing line.

On a positive note, the extended double zepp antenna with a 450 ohm matching section down to a 1:1 balun and then 50 ohm coax is a solid performer, and it consistently out performs a dipole and the Lazy H broadside to the antenna.

Michael Rawls
KS4HY

1370. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 14:30:17 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isdfhrbrs4@dont-email.me>
Source record: 4671

On 6/4/2011 7:04 AM, Michael wrote:

> ...
> On a positive note, the extended double zepp antenna with a 450 ohm
> matching section down to a 1:1 balun and then 50 ohm coax is a solid
> performer, and it consistently out performs a dipole and the Lazy H
> broadside to the antenna.
>
> Michael Rawls
> KS4HY

You are "matching" 450 ohm line to 50 ohm coax thru a 1:1 balun?

Where is the matchbox/tuner located?

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1371. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 14:46:24 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isdgg3brs5@dont-email.me>
Source record: 4672

```
On 6/4/2011 7:30 AM, John Smith wrote:
> On 6/4/2011 7:04 AM, Michael wrote:
>
>> ...
>> On a positive note, the extended double zepp antenna with a 450 ohm
>> matching section down to a 1:1 balun and then 50 ohm coax is a solid
>> performer, and it consistently out performs a dipole and the Lazy H
>> broadside to the antenna.
>>
>> Michael Rawls
>> KS4HY
>
> You are "matching" 450 ohm line to 50 ohm coax thru a 1:1 balun?
>
> Where is the matchbox/tuner located?
>

Never mind, should have read your post closer, you are claiming to have
already handled it in the "450 ohm matching section."

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry
```

1372. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 15:42:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m0kku6d13ck87ptko8prr9i6488cqstbi6@4ax.com>
Source record: 4673

On Sat, 4 Jun 2011 07:04:28 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>but the final
>verdict is not what I had hoped.
probably because it is unbalanced by being connected:
>to the antenna tuner
which through its ground connection unbalances the Lazy H.

For the entire duration of your discussion, I've seen no treatment for common mode problems that you have described by various symptoms in the past. Your complaint of poor performance is a chief indicator.

Other indications have ranged variably from glaring beyond that to not apparent yet remaining a problem still, as is obvious by the poor gain performance for all variations.

You already have the solution in the other antenna:
> a 1:1 balun and then 50 ohm coax is a solid
>performer
provided the BalUn is a W2DU.

Your problem is NOT the antenna!

73's
Richard Clark, KB7QHC

1373. Re: balcony railing mount for DBS dish

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 16:29:28 UTC
From: Timothy Daniels <NoSpam@SpamMeKnot.biz>
Message-ID: <cb6dnabpv4P9wHfQnZ2dnUVZ_h2dnZ2d@earthlink.com>
Source record: 4674
Cross-posted to: rec.radio.amateur.antenna,rec.video.satellite.dbs

Merely *attaching* something to the non-Exclusive Use common
area of a condo property can be prohibited by the homeowners
association. It is like someone tying something to your car - he can
claim that it isn't a *permanent* attachment, but you'd be legally
correct in requiring its removal. The surface of a patio, on the other
hand, is *meant* to have things set on it, and so setting a tripod to
hold a dish cannot be prohibited on other than safety considerations
(and perhaps also on historical site considerations).

TimDaniels

"moronsbegone" wrote:
>
> Not only that, If he uses NO nails or drills NO holes for screws
> he is not adding to the structure perminantly witch is a no no
> [common sense]. I would use a series of clamps, and not leave it
> up in bad weather or when I am away , seems as though temporary
> would be a better aproach. I'm having alot of luck using mine
> indoors LoL.
>>>
>>>
>>> If your landlord wants to be difficult, he can
>>> prohibit the railing mounts - legally (assuming you're
>>> in the U.S.). The railing is not considered part of
>>> the unit or the Exclusive Use area. It is part of the
>>> exterior of the building. Even condo CC&Rs that I
>>> have seen explicitly state that balcony railings are
>>> NOT part of the unit owned or rented. Furthermore, he
>>> can prevent it by safety considerations by claiming
>>> that it presents a hazard of falling off onto people
>>> below. Since approval of a railing mount may pose a
>>> liability risk for the building owner, he may bring up
>>> the heavy legal artillery against you. If I were
>>> in your position, I'd make a cheap tripod and mount
>>> the feet in cement blocks (just pour quickset cement
>>> into a plastic bucket) on the balcony, and then mount
>>> the dish to the tripod.
>>>
>>> *TimDaniels*
>>
>>
>>
>

1374. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 17:26:33 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <isdpsfilu1@dont-email.me>
Source record: 4675

On 5/23/2011 5:53 PM, 'Captain' Kirk DeHaan wrote:

> This is the repeater I am trying to access, 146.780, K7JEP. I have been
> playing with Google Earth and getting coordinates so I can go over to my
> neighbors property and stand on the ridge between our properties and see
> if I can see the repeater and my house. Hopefully that will help me
> locate the suspect trees.
>

Suspend a heavy object from a rope over level ground. If I have plugged in the correct numbers, the repeater will be on a line drawn by the shadow of the rope at 12:55. That is, the repeater will be directly below the sun at that time.

Maybe you can get an idea of the path to the repeater that way.

73,
John

1375. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 21:26:02 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <ise7th$8si$1@dont-email.me>
Source record: 4676

On 5/24/2011 8:47 AM, Wimpie wrote:
> On 24 mayo, 05:06, John KD5YI<soph...@invalid.org> wrote:
>> On 5/23/2011 5:10 PM, Wimpie wrote:
>>
>>
>>
>>> On 22 mayo, 20:04, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
>>> wrote:
>>>> I'm living in a wooded area and am trying to hit our club repeater
>>>> reliably. It's cloudy now so I'm and getting a bit of ducting but I
>>>> have a lot of trees, mostly poplars, in the direct path. I would have a
>>>> line of sight if not for the trees as I'm up enough in altitude. I can
>>>> cut the trees, they're mine, but finding the right ones is difficult and
>>>> i don't want to waste the whole grove.
>>
>>>> I go from keying the repeater with no intelligible signal to not being
>>>> able to hit it. Today I actually have an S meter reading due to the
>>>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>>>> wonder if NVIS would work on 2m? I have only seen references to it
>>>> being applied in HF.
>>
>>>> 'Captain' Kirk DeHaan
>>>> N6SXR
>>
>>> Hello,
>>
>>> As you can see from the replies, we are in the speculation phase. If
>>> you would like to receive more specialized feedback, you should
>>> provide us with more details about the path, antenna height, nearby
>>> obstacles, vegetation in between, etc (maybe some pictures).
>>
>>> As we are discussing 2 m wavelength, obstacles that may be optically
>>> in the path may introduce less attenuation then expected, but
>>> obstacles that are outside the optical path can still introduce
>>> attenuation.
>>
>>> At 10m (33ft) from your antenna, the first Fresnel zone is about 9m
>>> (30 ft) wide. In addition, the tree attenuation at these frequencies
>>> is not that high. I think of 0.15 dB/m (I hope somebody can confirm
>>> this). It can be less due to diffraction (bending) of the waves around
>>> and over the trees.
>>
>>> I am almost sure, removing some poplar treetops at 10m from your
>>> antenna or more will not change the situation from marginal to good

>>> (because of the relative low attenuation).
>>
>>> Just to be curious, what type of poplar do you have at your site.
>>
>>> With kind regards,
>>
>>> Wim
>>> PA3DJS
>>> www.tetech.nl
>>
>> According to his lat/lon numbers, he is 19 miles from the repeater and
>> its bearing is 185 degrees (ref true north) from him. The repeater is
>> about 2000 feet above him (not including the tower height). He is in a
>> valley that has little altitude variation until his signal reaches the
>> mountain.
>>
>> This info is available from Google Earth using his numbers.
>>
>> All of this leads me to think that something else is wrong. I can hit a
>> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
>> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>>
>> I have tons of deciduous trees between me and the repeater but the
>> signal is always solid with no noise on it (I don't have an S-meter) and
>> I have never had a report of noise on my signal until I tried to carry
>> on a conversation with 200 mw output power.
>>
>> Cheers,
>> John
>
> Hello John,
>
> With Google maps, results (distance and bearing) are similar (based on
> the data given by Kirk).
>
> If the trees south of his antenna are the problem (I am not
> convinced), he needs to cut lots of them. They are about 150m from
> his antenna, and at that distance first Fresnel zone width is about
> 30m (100ft).
>
> It seems flat when looking to the activities in the valley. I hope
> somebody can make a path profile and loss simulation to see what is
> the real obstacle.
>
> With kind regards,
>
>
> Wim
> PA3DJS

Well, I have applied some numbers today and I am changing my mind that the trees are not the problem.

If my numbers are correct: The repeater, 19 miles away, is 1900 feet above his elevation. At that distance, the antenna will appear be about 240 feet lower than actual due to earth curvature. That makes the antenna appear to be about 0.954 degrees above the horizon.

That is equivalent to 60 feet at 3600 feet. In other words, 60 foot trees closer in will be completely in the way. The hurtful part of this is that his antenna at 45 feet will have a lowest angle of radiation (take-off angle) of .7 degrees, right into the near trees. The next lobe above that is at 2.2 degrees. Between those two lobes is a null.

In short, I think his antenna is in a null. I think the only answer for his present situation is to raise the antenna another 10 feet.

What do you think?

73,
John

1376. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 22:31:53 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <toblu69udfj3u08vvv0ca611ei13c5drti@4ax.com>
Source record: 4677

On Sat, 04 Jun 2011 12:26:33 -0500, John S <sophi.2@invalid.org>
wrote:

>On 5/23/2011 5:53 PM, 'Captain' Kirk DeHaan wrote:
>
>> This is the repeater I am trying to access, 146.780, K7JEP. I have been
>> playing with Google Earth and getting coordinates so I can go over to my
>> neighbors property and stand on the ridge between our properties and see
>> if I can see the repeater and my house. Hopefully that will help me
>> locate the suspect trees.
>>
>
>Suspend a heavy object from a rope over level ground. If I have plugged
>in the correct numbers, the repeater will be on a line drawn by the
>shadow of the rope at 12:55. That is, the repeater will be directly
>below the sun at that time.
>
>Maybe you can get an idea of the path to the repeater that way.
>
>73,
>John

Clever trick, but methinks I have an easier way. I've sighted 1
degree beamwidth microwave dishes this way:

1. Place a road map on a flat surface[1]. If you can't find a road
map, print a Google Maps or equivalent road map on a piece of
paper[2].
2. Pound a nail or push pin into the map at your location.
3. Find a distant mountain, that's also visible. Pound a nail into
the map at its location and sight between the two nails to the distant
mountain.
4. Without moving the map, find the distant repeater location on the
map and pound in a 3rd nail or push pin.
5. Sight from the nail at your location, to the nail at the repeater
location. What you see is where it's located.

[1] Yes, the earth really is flat.
[2] When I didn't have a printed map handy, I've used my laptop LCD
screen and 3ea flat head screws.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1377. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 22:39:03 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <isec6f$c8$1@dont-email.me>
Source record: 4678

On 6/4/2011 5:31 PM, Jeff Liebermann wrote:
> On Sat, 04 Jun 2011 12:26:33 -0500, John S<sophi.2@invalid.org>
> wrote:
>
>> On 5/23/2011 5:53 PM, 'Captain' Kirk DeHaan wrote:
>>
>>> This is the repeater I am trying to access, 146.780, K7JEP. I have been
>>> playing with Google Earth and getting coordinates so I can go over to my
>>> neighbors property and stand on the ridge between our properties and see
>>> if I can see the repeater and my house. Hopefully that will help me
>>> locate the suspect trees.
>>>
>>
>> Suspend a heavy object from a rope over level ground. If I have plugged
>> in the correct numbers, the repeater will be on a line drawn by the
>> shadow of the rope at 12:55. That is, the repeater will be directly
>> below the sun at that time.
>>
>> Maybe you can get an idea of the path to the repeater that way.
>>
>> 73,
>> John
>
> Clever trick, but methinks I have an easier way. I've sighted 1
> degree beamwidth microwave dishes this way:

Easier than what I suggested? Actually, all he has to do is step outside at 12:54 and look at the Sun's location. (I admit it is more accurate to do this in the winter.)

> 1. Place a road map on a flat surface[1]. If you can't find a road
> map, print a Google Maps or equivalent road map on a piece of
> paper[2].
> 2. Pound a nail or push pin into the map at your location.
> 3. Find a distant mountain, that's also visible. Pound a nail into
> the map at its location and sight between the two nails to the distant
> mountain.
> 4. Without moving the map, find the distant repeater location on the
> map and pound in a 3rd nail or push pin.
> 5. Sight from the nail at your location, to the nail at the repeater
> location. What you see is where it's located.
>
>
> [1] Yes, the earth really is flat.
> [2] When I didn't have a printed map handy, I've used my laptop LCD

> screen and 3ea flat head screws.

I am afraid I cannot tell whether items [1] and [2] are just screwing with me or that you are sincere.

John

1378. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 22:49:44 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <isecqf$3qv$1@dont-email.me>
Source record: 4679

On 6/4/2011 5:39 PM, John S wrote:
> On 6/4/2011 5:31 PM, Jeff Liebermann wrote:

By the way, Jeff, you have a great deal to offer the group by way of your vast experience. If I have been disrespectful of that, then I apologize.

73,
John

1379. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-04 23:20:55 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <da1ea70d-ef07-4b93-b6d4-81b934e393f5@x6g2000yqj.googlegroups.com>
Source record: 4680

On 4 jun, 23:26, John S <soph...@invalid.org> wrote:
> On 5/24/2011 8:47 AM, Wimpie wrote:
>
>
>
> > On 24 mayo, 05:06, John KD5YI<soph...@invalid.org> wrote:
> >> On 5/23/2011 5:10 PM, Wimpie wrote:
>
> >>> On 22 mayo, 20:04, 'Captain' Kirk DeHaan<captk...@ncc-1701a.net>
> >>> wrote:
> >>>> I'm living in a wooded area and am trying to hit our club repeater
> >>>> reliably. It's cloudy now so I'm and getting a bit of ducting but I
> >>>> have a lot of trees, mostly poplars, in the direct path. I would have a
> >>>> line of sight if not for the trees as I'm up enough in altitude. I can
> >>>> cut the trees, they're mine, but finding the right ones is difficult and
> >>>> i don't want to waste the whole grove.
>
> >>>> I go from keying the repeater with no intelligible signal to not being
> >>>> able to hit it. Today I actually have an S meter reading due to the
> >>>> clouds. I am currently using a J-pole and will put up a Yagi soon but
> >>>> wonder if NVIS would work on 2m? I have only seen references to it
> >>>> being applied in HF.
>
> >>>> 'Captain' Kirk DeHaan
> >>>> N6SXR
>
> >>> Hello,
>
> >>> As you can see from the replies, we are in the speculation phase. If
> >>> you would like to receive more specialized feedback, you should
> >>> provide us with more details about the path, antenna height, nearby
> >>> obstacles, vegetation in between, etc (maybe some pictures).
>
> >>> As we are discussing 2 m wavelength, obstacles that may be optically
> >>> in the path may introduce less attenuation then expected, but
> >>> obstacles that are outside the optical path can still introduce
> >>> attenuation.
>
> >>> At 10m (33ft) from your antenna, the first Fresnel zone is about 9m
> >>> (30 ft) wide. In addition, the tree attenuation at these frequencies
> >>> is not that high. I think of 0.15 dB/m (I hope somebody can confirm
> >>> this). It can be less due to diffraction (bending) of the waves around
> >>> and over the trees.
>

> >>> I am almost sure, removing some poplar treetops at 10m from your
> >>> antenna or more will not change the situation from marginal to good
> >>> (because of the relative low attenuation).
>
> >>> Just to be curious, what type of poplar do you have at your site.
>
> >>> With kind regards,
>
> >>> Wim
> >>> PA3DJS
> >>>www.tetech.nl
>
> >> According to his lat/lon numbers, he is 19 miles from the repeater and
> >> its bearing is 185 degrees (ref true north) from him. The repeater is
> >> about 2000 feet above him (not including the tower height). He is in a
> >> valley that has little altitude variation until his signal reaches the
> >> mountain.
>
> >> This info is available from Google Earth using his numbers.
>
> >> All of this leads me to think that something else is wrong. I can hit a
> >> repeater 20 miles from me with 5 Watts and its antenna is on a 300 ft
> >> tower. My antenna (half wave end-fed dipole) is on a 20 ft mast.
>
> >> I have tons of deciduous trees between me and the repeater but the
> >> signal is always solid with no noise on it (I don't have an S-meter) and
> >> I have never had a report of noise on my signal until I tried to carry
> >> on a conversation with 200 mw output power.
>
> >> Cheers,
> >> John
>
> > Hello John,
>
> > With Google maps, results (distance and bearing) are similar (based on
> > the data given by Kirk).
>
> > If the trees south of his antenna are the problem (I am not
> > convinced), he needs to cut lots of them. They are about 150m from
> > his antenna, and at that distance first Fresnel zone width is about
> > 30m (100ft).
>
> > It seems flat when looking to the activities in the valley. I hope
> > somebody can make a path profile and loss simulation to see what is
> > the real obstacle.
>
> > With kind regards,
>
> > Wim
> > PA3DJS

>
> Well, I have applied some numbers today and I am changing my mind that
> the trees are not the problem.
>
> If my numbers are correct: The repeater, 19 miles away, is 1900 feet
> above his elevation. At that distance, the antenna will appear be about
> 240 feet lower than actual due to earth curvature. That makes the
> antenna appear to be about 0.954 degrees above the horizon.
>
> That is equivalent to 60 feet at 3600 feet. In other words, 60 foot
> trees closer in will be completely in the way. The hurtful part of this
> is that his antenna at 45 feet will have a lowest angle of radiation
> (take-off angle) of .7 degrees, right into the near trees. The next lobe
> above that is at 2.2 degrees. Between those two lobes is a null.
>
> In short, I think his antenna is in a null. I think the only answer for
> his present situation is to raise the antenna another 10 feet.
>
> What do you think?
>
> 73,
> John

Hello John,

This link:
http://www.tetech.nl/divers/Kirk_Repeater_USA_1.png
shows the path profiles with and without trees (from Radio Mobile,
VE2DBE). I will keep it there for some weeks.
I used 30m (98ft) high trees (so they are easy to see).

The trees cover some additional part of the first fresnel zone, but
the average canopy will be lower and the absorption loss is not that
high at 146 MHz.

So yes, there is influence from the trees, but not that much I think.
If you want to get some increase in signal, you need to remove lots of
them, and he don't want to do that. Note that the first trees are
160m away from his antenna (info from google earth, based on data
provided by Kirk).

With kind regards,

Wim
PA3DJS
www.tetech.nl

1380. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 01:10:13 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <cfd91624-aca3-4663-b930-b69e76d83a45@n10g2000yqf.googlegroups.com>
Source record: 4681

On Jun 4, 11:42 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 4 Jun 2011 07:04:28 -0700 (PDT), Michael
>
> <goo...@shadowstorm.com> wrote:
> >but the final
> >verdict is not what I had hoped.
>
> probably because it is unbalanced by being connected:>to the antenna tuner
>
> which through its ground connection unbalances the Lazy H.
>
> For the entire duration of your discussion, I've seen no treatment for
> common mode problems that you have described by various symptoms in
> the past. Your complaint of poor performance is a chief indicator.
>
> Other indications have ranged variably from glaring beyond that to not
> apparent yet remaining a problem still, as is obvious by the poor gain
> performance for all variations.
>
> You already have the solution in the other antenna:> a 1:1 balun and then 50 ohm coax is
a solid
> >performer
>
> provided the BalUn is a W2DU.
>
> Your problem is NOT the antenna!
>
> 73's
> Richard Clark, KB7QHC

The tuners I have both have built in baluns. After I took down the
Lazy H I put up a delta loop with 300 ohm twin lead back to the same
balanced line tuner connections. The delta loop out performed the
dipole by a hair, but the delta loop has a height advantage over the
dipole.

I have some other baluns lying around. I suppose I could hook the
450 ladder line to one of those baluns and then connect a coax jumper
between it and the antenna tuner and try it. It seems like they may
be W2AU baluns. I bought them back in the 1990s, but I have not looked
at the labels in awhile.

I still may try the end fed Lazy H with the twist.

Michael

1381. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 01:18:21 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <bojlu6p0p8cupbl9rphco1vkrshbjkeem5@4ax.com>
Source record: 4682

On Sat, 04 Jun 2011 17:39:03 -0500, John S <sophi.2@invalid.org>
wrote:

>Easier than what I suggested? Actually, all he has to do is step outside
>at 12:54 and look at the Sun's location. (I admit it is more accurate to
>do this in the winter.)

Well, your method only works at exactly 12:54PM, requires remembering
daylight savings time, requires dark glasses to avoid blindness, works
badly in fog, need to get it right the first time, and offers no way
to document the results. At 12:54PM, the sun is almost directly over
head with no point of reference, as you would have at the horizon.
Manually translating the sun's overhead direction, to azimuth at the
horizon, requires considerable guesswork. A plumb line might helpful.

Incidentally, trees are a very real problem with antenna sighting:
<http://802.11junk.com/jeffl/pics/DBS/index.html>
That's my view of the DirecTV bird at 101 degrees. The photos were
taken during the bi-annual solar outage, where the sun gets behind the
satellite belt.
<http://en.wikipedia.org/wiki/Solar_outage>
Note the branch shadows on the dish, which are blocking the signal.

>> [1] Yes, the earth really is flat.
>> [2] When I didn't have a printed map handy, I've used my laptop LCD
>> screen and 3ea flat head screws.
>
>I am afraid I cannot tell whether items [1] and [2] are just screwing
>with me or that you are sincere.

As far as this measurement is concerned, the earth is essentially flat
over fairly small areas. No spherical geometry required. Even the
United Nations has adopted the flat earth map for its flag.
<http://upload.wikimedia.org/wikipedia/commons/2/2f/Flag_of_the_United_Nations.svg>
Antarctica is a collection of icicles around the outer edge.

The 2nd item is for real. I was on top of a mountain, trying to aim a
dish without a map. I had Street Atlas USA v5 on my then ancient
Toshiblah 100CS laptop, which I used for my initial bearing. Other
than having a difficult time holding the laptop, problems viewing the
screen in the sunlight, and too short a base line, it worked.

>By the way, Jeff, you have a great deal to offer the group by way of
>your vast experience. If I have been disrespectful of that, then I
>apologize.

Thanks and not a problem. You have a long way to go before such
comments become a problem.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1382. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 02:38:55 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <e18f1121-07c6-4d55-89e1-34d31e22d1fc@y19g2000yqk.googlegroups.com>
Source record: 4683

On Jun 4, 9:10 pm, Michael <goo...@shadowstorm.com> wrote:
> On Jun 4, 11:42 am, Richard Clark <kb7...@comcast.net> wrote:
>
>
>
> > On Sat, 4 Jun 2011 07:04:28 -0700 (PDT), Michael
>
> > <goo...@shadowstorm.com> wrote:
> > >but the final
> > >verdict is not what I had hoped.
>
> > probably because it is unbalanced by being connected:>to the antenna tuner
>
> > which through its ground connection unbalances theLazyH.
>
> > For the entire duration of your discussion, I've seen no treatment for
> > common mode problems that you have described by various symptoms in
> > the past. Your complaint of poor performance is a chief indicator.
>
> > Other indications have ranged variably from glaring beyond that to not
> > apparent yet remaining a problem still, as is obvious by the poor gain
> > performance for all variations.
>
> > You already have the solution in the other antenna:> a 1:1 balun and then 50 ohm coax
is a solid
> > >performer
>
> > provided the BalUn is a W2DU.
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> > Your problem is NOT the antenna!
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> > 73's
> > Richard Clark, KB7QHC
>
> The tuners I have both have built in baluns. After I took down theLazyH I put up a delta
loop with 300 ohm twin lead back to the same
> balanced line tuner connections. The delta loop out performed the
> dipole by a hair, but the delta loop has a height advantage over the
> dipole.
>
> I have some other baluns lying around.   I suppose I could hook the
> 450 ladder line to one of those baluns and then connect a coax jumper
> between it and the antenna tuner and try it. It seems like they may

> be W2AU baluns. I bought them back in the 1990s, but I have not looked
> at the labels in awhile.
>
> I still may try the end fedLazyHwith the twist.
>
> Michael

I just remembered most of those external baluns are 1:1 baluns. I do have one external commercial 4:1 balun, and one 4:1 balun I hand wound from a schematic in one of my antenna books.

-Michael

1383. Re: external-antenna wifi for handheld/handtop?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 02:43:18 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFADCFC87A99notnowneverorg@127.0.0.1>
Source record: 4684
Cross-posted to: comp.sys.handhelds,rec.radio.amateur.antenna

phlegmatico <phlegmatico@breakthru.com> wrote in
news:802d090a-29c3-48b6-81fc-cc0c0ae87f8b@l42g2000hsc.googlegr
oups.com:

> what is the smallest computer that can be configured to
> work with an external-antenna rig-up for wifi at a distance
> from the hotspot?
>

A net book and managable wireless switch running a stable
version of Linux might work,
But a programmable router would be better, especially one that
has a Linux os and is Hackable. Here is an interesting video
that makes a run of the mill Lynksys 80 dollar router do what a
Cisco AirNet 2400 can, Repeater and all, they hack the OS and
install their free to public home brew features.

http://www.youtube.com/watch?v=08eVqpPVGiU

So much for spending 600 bucks if it works, you'll be under a
hundred.
Personally I am lazy and employed; I would just go out and buy a
Cisco or other top end product and be done with it.

A separate computer running at the base of a big antenna? I
wouldn't want that on a cold winters night and the snows coming
down etc...

1384. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 03:09:10 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFAE15F7AA61notnowneverorg@127.0.0.1>
Source record: 4685

Bruce in alaska <fast@btpost.net> wrote in
news:fast-8D9677.09004204032008@netnews.worldnet.att.net:

> In article
> <47cd5870$0$1344$834e42db@reader.greatnowhere.com>,
> "Jeff" <jeff@local.host> wrote:
>
>> Surely all you need is a wireless card in the pc that you
>> wish to connect to the router on the mast. If you happen
>> to have a router in the house as well it is no different
>> to your next door neighbour having a WiFi network. You
>> just connect to whichever router you wish to.
>>
>> Jeff
>
> Usually, WiFi Routers come with firmware, that only allow
> the RF Port to communicate with the Ethernet Lan and Wan
> Ports, and not with other connected client devices. This
> can be modified via a Open Source firmware revision, but is
> NOT the usual case. -------------------------

http://www.youtube.com/watch?v=08eVqpPVGiU

Video instructions on a cheap linksys hack.

1385. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 03:13:07 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFAE20B04973notnowneverorg@127.0.0.1>
Source record: 4686

"J.B. Wood" <john.wood@nrl.navy.mil> wrote in
news:isadsp$kn1$1@ra.nrl.navy.mil:

> On 06/02/2011 12:36 PM, moronsbegone wrote:
>
>> If I could find a lower end name "Repeater" capable AP
>> point unit like a NetGear or similar and program it to
>> autologon to unprotected WiFi access points That would
>> Kick butt. Thats called promiscuous mode but has moral
>> issues.
>
> Hello, and moral issues aside for the moment, you'll
> probably discover very quickly that unlike a few years ago
> most, if not all, Wi-Fi access points/cable routers in your
> area these days are probably protected either by WEP (old)
> or WPA-2. (A Wi-Fi laptop with a network scan utility will
> usually indicate protected/open networks). And even many
> of those with older equipment have gotten wise.
>
> The newer boxes usually have the protection turned on
> out-of-the-box with a password (changeable by the
> user/administrator). Older boxes had WEP turned off by
> default and a lot of users just plugged them in and never
> bothered to read the user guide and/or turn on the
> protection. Sincerely, and 73s from N4GGO,
>

Give me 5 minutes and "Back-Track-3" and I can crack a wep key.
google backtrack 3 and version 4 and weep!!

1386. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 03:42:33 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFAE7083241Cnotnowneverorg@127.0.0.1>
Source record: 4687

"J.B. Wood" <john.wood@nrl.navy.mil> wrote in
news:isaesv$l03$1@ra.nrl.navy.mil:

> Hello once more. One last thing to add is that even if one
> installs a high-gain Wi-Fi antenna, depending on the
> distance to the source, you probably won't have clear
> line-of-sight and subject to multipath problems. The
> network might show a "4 green bars" signal strength one
> moment and be yellow, red, or out the next). Sincerely,
>

That is most likely where my problem is. Remember this is just
a redneck style Git'r done solution till my commercial one
arrives, a vertical anttenna in front of a dish has got all
ears and no mouth written all over it.
Now if I was using a feed horn [cantenna type] well that would
prove tx power and your sugestion as well is the culprit, we
know the clutter thing is in there because this whole shmoosh
is indoors. I hate running high power $$$ and frequent
burnouts of the finals. I like to think a half watt is all
I'll need. Now if I can get my TX to look like a Laser beam
hey hey.

Seriously check this out;
www.youtube.com/watch?v=piFISJKyV6c
www.youtube.com/watch?v=weEZtBTfEMU

The software is free but I preffer the USB dongle os
running BackTrack 3 It's a bit simpler, and you need 2 wifi
dongles, prefferably the Athros as suggested, II use them on
other versions of Linux too, they seem to be the best for
hackin around, they are permiscuos and can Inject packets to
an already busy data streem thanx to the MAC address
spoofabilty they have.
You can also use this software to turn a laptop with two
dongles into a covert repeater. But expect downtime with that
idea.
You can Cache everybodys WEP keys buy faking your IP as one of
the AP points in the Air. Send all 'packets copy' to a data
BIN folder and run the desypher software built in to get the
wep, wpk and such. Even SSL ports. It's my job to keep these
script kiddies out of my network, I have to know this stuff.
Our wireless Credit card system is constantly under attack
by NIX kids [wannabe hacker teens running linux] As long as I
can crack it, they will not use it, it's sitting there off

line collecting dust per order ME!! WEP is not safe neither
is WPK, though a data base dictionary service is needed for
WPK sometimes for 25 bucks these hackers will take your glop
of ssl data and within 1 day send you the security key.
This is the nightmare behind CLOUD computing, the access to
several hundred micro proccessors to crack a key is now CHEAP,
I use 40 lab machines to convert and crunch a DVD 2 hour video
in ten minutes with cloud computing software. It's realy FARM
computing not quite the same as the term local ads are running
such as google is now cloud computing.
Unfortunatly Criminal minds are more intrested in this more
then we are.

1387. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 04:09:42 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFAEBA29EEDBnotnowneverorg@127.0.0.1>
Source record: 4688

"amdx" <amdx@knology.net> wrote in
news:c3074$47cd63fa$450139ad$26070@KNOLOGY.NET:

>
> " W4NNG" <mh@soalex.us> wrote in message
> news:8Z%yj.7939$XO4.2669@newsfe19.lga...
>> Hello fellow HRO's
>>
>> I've got a 50ft tower w/ rotor. Been thinking mounting
>> a 2.4 Ghz WiFi antenna on the rotor to see what it picks
>> up in way of WAP / WLAN's
>>
>> To get around cable loss problem was going to put a USB
>> adapter at antenna then run USB cable up tower. Have
>> tested USB at ~ 5X it's spec'd range but
>> suspect the 60 - 70' run will be way too long.
>>
>> Anyone know of a way to 'remodulate' so to speak to 802.11
>> wirelessly link the output from the antenna mounted
>> adapter back to computer?
>>
>> Thanks for any thoughts
>>A programmable router would be better, especially one that
has a Linux os and is Hackable. Here is an interesting video
that makes a run of the mill Lynksys 80 dollar router do what
a [600 dollar] Cisco AirNet 2400 can, Repeater and all, they
hack the OS and install their free to public home brew
features.
http://www.youtube.com/watch?v=08eVqpPVGiU

So much for spending 600 bucks if it works, you'll be under a
hundred. Only 235 milliwatts max though.
Personally I am lazy and employed; I would just go out and buy
a Cisco 1/2 watt or other top end product and be done with it.
Can't use a whole watt if you woryy about FCC dudes lurking
around, that and a 30 db gain your way over limit.
Too bad these little routers do not support PoE [Power over
eithernet, you can use a power injector [40 bucks] to send the
power to the router through two of the 6 conductors of the
CAT5 cable.

For now just run a cat 5 cable and low voltage power supply
bell wire to the router witch HAS WiFi 2 channel built in.
Check and make sure there are External Antenna outputs on this
otherwise walk away from it. Soldering 2.4 GHz equipment

___s#$ks. If I didn't own a 1300 dollar wire bonder unit I
wouldn't try it, but fortunately I do and the job still stinks
, If your not a neat freak with connections you have sporadic
rf leaking everywhere.

>> Bob
>>
>> W4NNG
>>
>
> Hi Bob,
> I have done something similar to what you want to do. I
> picked up MFJs yagi
> antenna MFJ-1800
> http://www.mfjenterprises.com/man/pdf/MFJ-1800.pdf
> and a $13.00 wireless USB adapter. I adapted an N connector
> to the wireless USB adapter.
> (a little troublesome, large connector, small adapter) I
> then connected the N connector/adapter assy
> to the yagi. I mounted the whole thing in a 4" pvc pipe. I
> purchased two 15 ft USB male to female cords.
> I found I had intermitent performance, The problem was 30
> ft of USB cords,
> I cut back to one 15ft cord
> and the ass'y works wonderfully. I can see over 20 wifi
> signals from where I'm at, only 3 to 4 are strong
> signals (over 50%, whatever that means). While trying to
> solve the intermitent performance I did find
> there are cords available with amplifiers built inline to
> extend the usable USB cable length. I did not try
> these I just moved my yagi. The others are way ahead of my
> knowledge regarding the wireless router and
> it's operation on top of your tower.
> Mike
>
>
>

1388. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 04:17:06 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFAECE45ABE6notnowneverorg@127.0.0.1>
Source record: 4689

" W4NNG" <mh@soalex.us> wrote in
news:UFhAj.20559$yk5.18269@newsfe18.lga:

> Hello everyone
>
> Like Mike, I also have the MFJ-1800. And boy was I
> surprised when none of my shack full of type N to SMA
> adapters didn't work. I can't believe they reversed the
> polarity of the center pins for WIFI SMA connectors.
> Urrrrgh !!!
>
> The router discussion is interesting I need to keep it
> simple. Of my various goals one of them is to passively
> receive signals. At least at my level of knowledge it
> will be best if the computer links directly to the adapter.
>
> Haven't had the chance to look around but I do like the
> Ethernet cable up the tower suggestion. Is there a
> particularly good adapter for doing this?
>
>
>
>
> "amdx" <amdx@knology.net> wrote in message
> news:c3074$47cd63fa$450139ad$26070@KNOLOGY.NET...
>
> " W4NNG" <mh@soalex.us> wrote in message
> news:8Z%yj.7939$XO4.2669@newsfe19.lga...
>> Hello fellow HRO's
>>
>> I've got a 50ft tower w/ rotor. Been thinking mounting
>> a 2.4 Ghz WiFi antenna on the rotor to see what it picks
>> up in way of WAP / WLAN's
>>
>> To get around cable loss problem was going to put a USB
>> adapter at antenna then run USB cable up tower. Have
>> tested USB at ~ 5X it's spec'd range but
>> suspect the 60 - 70' run will be way too long.
>>
>> Anyone know of a way to 'remodulate' so to speak to 802.11
>> wirelessly link the output from the antenna mounted
>> adapter back to computer?
>>
>> Thanks for any thoughts

http://www.youtube.com/watch?v=08eVqpPVGiU

Video instructions on a cheap linksys hack.
This would be work but CHEAP CHEAP.
>>

>> Bob
>>
>> W4NNG
>>
>
> Hi Bob,
> I have done something similar to what you want to do. I
> picked up MFJs yagi
> antenna MFJ-1800
> http://www.mfjenterprises.com/man/pdf/MFJ-1800.pdf
> and a $13.00 wireless USB adapter. I adapted an N connector
> to the wireless USB adapter.
> (a little troublesome, large connector, small adapter) I
> then connected the N connector/adapter assy
> to the yagi. I mounted the whole thing in a 4" pvc pipe. I
> purchased two 15 ft USB male to female cords.
> I found I had intermitent performance, The problem was 30
> ft of USB cords,
> I cut back to one 15ft cord
> and the ass'y works wonderfully. I can see over 20 wifi
> signals from where I'm at, only 3 to 4 are strong
> signals (over 50%, whatever that means). While trying to
> solve the intermitent performance I did find
> there are cords available with amplifiers built inline to
> extend the usable USB cable length. I did not try
> these I just moved my yagi. The others are way ahead of my
> knowledge regarding the wireless router and
> it's operation on top of your tower.
> Mike
>
>
>

1389. Re: WiFi Link from top of tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 04:20:33 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFAED7955DEEnotnowneverorg@127.0.0.1>
Source record: 4690

" W4NNG" <mh@soalex.us> wrote in news:UFhAj.20559$yk5.18269
@newsfe18.lga:

> MFJ-1800
http://www.gigaparts.com/parts/gpcpa/original/nw0054.jpg

Judging by the pic, the Feed looks hackable, I would change that
in a heartbeat, by by booger feed hello n female feed.

1390. Re: Homebrew wifi antenna coax adapters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 05:42:48 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFB7477A9AAnotnowneverorg@127.0.0.1>
Source record: 4691

"Jerry Martes" <j.jmartes@verizon.net> wrote in
news:7dtsi.6380$2c6.1122@trnddc01:

>

>
> Hi Robert
>
> I have been looking for "software" that provides read-out
> to show WiFi
> signal strength. Can you tell me more about your "wifi
> utility program"?
google 'network stumbler' , it's freeware or actually "BEG"-ware
but it works most the time.
I here there's a few WalMart craptastic USB dongles that will
not work with it but thats a rare synptom.

1391. Re: Good coax for WiFi (2.4 & 5 ghz)?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 06:39:49 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFB10F27802Cnotnowneverorg@127.0.0.1>
Source record: 4692

Bob <warthog9@pacbell.net> wrote in
news:s_NRf.54029$H71.36157@newssvr13.news.prodigy.com:

> Did you know the USSS investigates many types of computer
> fraud and hacking? Do you think it's wise to state your
> intent to maliciously invade other peoples computer systems
> and mention a traceable Ebay purchase of the goods to do
> so? USB type adaptors generally do not work with the
> popular freeware that you wanna be hackers use to commit
> your heinous crimes. Belden RG-174 has about .6dB loss/ft @
> 5.6GHz. Your 15ft chunk would have about 9dB loss, not too
> impressive. Bob
>
>
GOOD Greaf the USSS doesn't care about WARDRIVING, it's a
recieving game not a transmit, besides they don't have time for
that pee-on piddily stuff your calling HENIOUS.

Your acting like this guy staged a circle jerk in the Emergency
Radio Club meeting or something, chill out.
The USSS is the reason I am a member of the NRA.
>

1392. Re: external wifi antennas in laptops

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 06:49:31 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFB12973EEFnotnowneverorg@127.0.0.1>
Source record: 4693

Ed <Huckleberry_REMOVE_@newsguy.com> wrote in
news:Xns9756B9C869CA9spectrumhogstarbandn@198.186.192.196:

> Many laptops now-a-days have mini-pci wifi internal wifi
> cards for
> wireless internet. Laptops such as the IBM Thinkpad series
> apparently have an antenna built into the top of the
> display, which enhances wifi signal.
>
> Does anyone have any idea what type of antenna is used?
> A neighbor has
> a wifi coverage problem and he says he measures a (DC)
> short circuit at the little coax coming from this built in
> antenna. I suspect this might be normal, but would like
> further opinion here. Thanks.
>
>
> Ed K7AAT

Be extreeeeeeemly carefull here, I know you said DC load tested the antenna but was it unplugged? More then once in my younger dumber days I sent the voltage comming out of the Volt meter [digital] hap hazardly into the final output of the radio, that was more then enouph to poof the transmitter chip, now it's toast. I would never believe the amp/volts comming out of a small digital test meter would roast the finals, but it did.

1393. Re: Good coax for WiFi (2.4 & 5 ghz)?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 06:56:13 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isf9ag$2aq$1@dont-email.me>
Source record: 4694

On 6/4/2011 11:39 PM, moronsbegone wrote:

>> ...
> GOOD Greaf the USSS doesn't care about WARDRIVING, it's a
> recieving game not a transmit, besides they don't have time for
> that pee-on piddily stuff your calling HENIOUS.
>
> Your acting like this guy staged a circle jerk in the Emergency
> Radio Club meeting or something, chill out.
> The USSS is the reason I am a member of the NRA.
>>
>

The insanity of it being a crime to receive any radio signal is so
obvious, I can only consider those recognize it as a VALID crime are insane.

However, I have always felt the same, and since a VERY young age, that
making the growing or possession of plants a crime demonstrates EXACTLY
the same brand of insanity.

If you look around, you will find other examples of this same insanity ...

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1394. Re: Good coax for WiFi (2.4 & 5 ghz)?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 07:06:54 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isf9uh$2aq$3@dont-email.me>
Source record: 4695

On 6/4/2011 11:39 PM, moronsbegone wrote:
> Bob<warthog9@pacbell.net> wrote in
> news:s_NRf.54029$H71.36157@newssvr13.news.prodigy.com:
>
>> Did you know the USSS investigates many types of computer
>> fraud and hacking? Do you think itï¿½s wise to state your
>> intent to maliciously invade other peoples computer systems
>> and mention a traceable Ebay purchase of the goods to do
>> so? USB type adaptors generally do not work with the
>> popular freeware that you wanna be hackers use to commit
>> your heinous crimes. Belden RG-174 has about .6dB loss/ft @
>> 5.6GHz. Your 15ft chunk would have about 9dB loss, not too
>> impressive. Bob
>>
>>
> GOOD Greaf the USSS doesn't care about WARDRIVING, it's a
> recieving game not a transmit, besides they don't have time for
> that pee-on piddily stuff your calling HENIOUS.
>
> Your acting like this guy staged a circle jerk in the Emergency
> Radio Club meeting or something, chill out.
> The USSS is the reason I am a member of the NRA.
>>
>

The insanity of it being a crime to receive any radio signal is so obvious, I can only consider those recognizing it as a VALID crime are insane.

However, I have always felt the same, and since a VERY young age, that making the growing or possession of certain plants a crime demonstrates EXACTLY the same brand of insanity. The men/groups/etc. establishing themselves as rightfully being able to command such insanity must think themselves GOD, how nice!

If you look around, you will find other examples of this same brand of insanity ... and, if you look even closer, you will find it usually involves a law which allows some to become very rich from its' enforcement ... so that in the end, those having the laws forced upon them are forced into participation in the insanity! As, even the simply actions to resist those laws, and even solely on principal, brings one under great scrutiny, or even punitive actions! And, this seems to have a 1:1 correlation to the "money stream(s)" generated by the law(s.)

But, has little to do with lossy coax at high frequencies ...

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1395. Re: Why do WiFi basestations use two antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 07:10:36 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFB162A13C22notnowneverorg@127.0.0.1>
Source record: 4696
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur,uk.tech.broadcast

Paul Burridge <pb@notthisbit.osiris1.co.uk> wrote in
news:5okam0d8i2qh7emsfa6dbdg7oqca17m4cu@4ax.com:

> On Thu, 7 Oct 2004 12:00:52 +0100, "Daniel Kelly \(AKA
> Jack\)" <d.kellyNOSPAM@NOSPAM.ucl.ac.uk> wrote:
>
>>A little more info about my system:
>>The system is part of a wearable camera with recorder. The
>>camera, transmitter, microphone and a battery are all worn
>>in a hat.
>
> A hat?? What kind of a weirdo are you?

Could be a decoy or cop,mountain biker or sports related.

1396. Re: Why do WiFi basestations use two antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 07:19:52 UTC
From: moronsbegone <NoThanx@never.org>
Message-ID: <Xns9EFB17BC549E4notnowneverorg@127.0.0.1>
Source record: 4697
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur,uk.tech.broadcast

"Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in
news:ck9pu6$47o$1@titan.btinternet.com:

>> >Hams at UK rallies typically tend to smell rather badly,
>> >too. And look like child molesters. Is this a world-wide
>> >phenomenon or a purely British one?
>>
>> Must be purely British as no other country seems to have
>> the paranoia we seem to have about child molesters.
>>
> ==========
>
> All physical contact and association between people of all
> ages is fundamentally sexual in nature. It's for the
> propagation of our species. Otherwise there is no genetical
> reason for contact. It's all built into our genes.
>
>
>

CONFUSED; The reason for desire to contact is hiding in our
jeans ,,,the ones we are wearing,,,,isn't it?

Paranoya America,,,,,,,,,,,,,,,,,pethetic.....

My wife sued me for sexual harrasment,,,,,,,,,,,,,,I kissed
her on the cheek. Old Fat Homely thats me.
Woopie is sort of like shooting pool with a rope.

1397. Re: Why do WiFi basestations use two antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 07:31:39 UTC
From: Brian Gaff <Briang1@blueyonder.co.uk>
Message-ID: <isfbcsggg1@dont-email.me>
Source record: 4698

The answer is diversity reception, so you don't get nulls where signal is
lost.

Brian

--
Brian Gaff - briang1@blueyonder.co.uk
Note:- In order to reduce spam, any email without 'Brian Gaff'
in the display name may be lost.
Blind user, so no pictures please!
"moronsbegone" <NoThanx@never.org> wrote in message
news:Xns9EFB162A13C22notnowneverorg@127.0.0.1...
> Paul Burridge <pb@notthisbit.osiris1.co.uk> wrote in
> news:5okam0d8i2qh7emsfa6dbdg7oqca17m4cu@4ax.com:
>
>> On Thu, 7 Oct 2004 12:00:52 +0100, "Daniel Kelly \(AKA
>> Jack\)" <d.kellyNOSPAM@NOSPAM.ucl.ac.uk> wrote:
>>
>>>A little more info about my system:
>>>The system is part of a wearable camera with recorder. The
>>>camera, transmitter, microphone and a battery are all worn
>>>in a hat.
>>
>> A hat?? What kind of a weirdo are you?
>
> Could be a decoy or cop,mountain biker or sports related.

1398. Re: external wifi antennas in laptops

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 11:01:22 UTC
From: Baron <baron@linuxmaniac.net>
Message-ID: <isfnh8$5er$1@dont-email.me>
Source record: 4699

moronsbegone Inscribed thus:

> Ed <Huckleberry_REMOVE_@newsguy.com> wrote in
> news:Xns9756B9C869CA9spectrumhogstarbandn@198.186.192.196:
>
>> Many laptops now-a-days have mini-pci wifi internal wifi
>> cards for wireless internet. Laptops such as the IBM Thinkpad
>> series apparently have an antenna built into the top of the
>> display, which enhances wifi signal.
>>
>> Does anyone have any idea what type of antenna is used?

Usually inverted "F" ! Most have two, sometimes one is vertical and the
other horizontal.

--
Best Regards:
Baron.

1399. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 15:59:26 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <isg956$ku1$1@dont-email.me>
Source record: 4700

On 6/4/2011 6:20 PM, Wimpie wrote:
> On 4 jun, 23:26, John S<soph...@invalid.org> wrote:
>> On 5/24/2011 8:47 AM, Wimpie wrote:

>> Well, I have applied some numbers today and I am changing my mind that
>> the trees are not the problem.
>>
>> If my numbers are correct: The repeater, 19 miles away, is 1900 feet
>> above his elevation. At that distance, the antenna will appear be about
>> 240 feet lower than actual due to earth curvature. That makes the
>> antenna appear to be about 0.954 degrees above the horizon.
>>
>> That is equivalent to 60 feet at 3600 feet. In other words, 60 foot
>> trees closer in will be completely in the way. The hurtful part of this
>> is that his antenna at 45 feet will have a lowest angle of radiation
>> (take-off angle) of .7 degrees, right into the near trees. The next lobe
>> above that is at 2.2 degrees. Between those two lobes is a null.
>>
>> In short, I think his antenna is in a null. I think the only answer for
>> his present situation is to raise the antenna another 10 feet.
>>
>> What do you think?
>>
>> 73,
>> John
>
> Hello John,
>
> This link:
> http://www.tetech.nl/divers/Kirk_Repeater_USA_1.png
> shows the path profiles with and without trees (from Radio Mobile,
> VE2DBE). I will keep it there for some weeks.
> I used 30m (98ft) high trees (so they are easy to see).
>
> The trees cover some additional part of the first fresnel zone, but
> the average canopy will be lower and the absorption loss is not that
> high at 146 MHz.
>
> So yes, there is influence from the trees, but not that much I think.
> If you want to get some increase in signal, you need to remove lots of
> them, and he don't want to do that. Note that the first trees are
> 160m away from his antenna (info from google earth, based on data
> provided by Kirk).
>

> With kind regards,
>
>
> Wim
> PA3DJS
> www.tetech.nl

In that case, perhaps it is due to his antenna being at a height that puts the target into a null. Along with low repeater output power, I suppose that could cause it.

Thanks, Wim.

73,
John - KD5YI

1400. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 17:37:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <50fnu6ddeai5dgvdk97voef2i9k84602sr@4ax.com>
Source record: 4601

On Sat, 4 Jun 2011 19:38:55 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>I just remembered most of those external baluns are 1:1 baluns. I do
>have one external commercial 4:1 balun, and one 4:1 balun I hand wound
>from a schematic in one of my antenna books.

Hi Michael,

The odds are that the BalUns you wound are similar to the ones in your tuner(s) - and they will NOT do the job properly.

By properly, the BalUn MUST choke the line. This comes for free with the W2DU style, as there is only one way to build one, the right way.

The distinction is between what are called voltage BalUns and current BalUns. Frequently, web sites that purport to know the difference DON'T know the difference. The W2DU BalUn is an example of a current BalUn with a 1:1 ratio. It is also a choke. Very few BalUns that are published on the web are current BalUns. Similarly, very few have the necessary choking action.

One solution is to feed a W2DU BalUn, that in turn feeds any BalUn with the required transformation ratio, that then in turn feeds the antenna. The W2DU BalUn takes care of the proper choking action needed. However, this may not work with the internal BalUns found in nearly every tuner on the market. (How does one insert the choke to an internal BalUn?) Problem here is that if there is ANY path to ground that goes around the choke, you have just made it an exercise in futility.

And lastly, you have described a number of problems with the antenna that were both inside and outside of the focus of gain. ALL were functions of Common Mode currents. Choking the line is the best all-around solution.

73's
Richard Clark, KB7QHC

1401. Re: NVIS and VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-05 20:32:31 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <isgp56tov1@dont-email.me>
Source record: 4602

On 6/5/2011 10:59 AM, John S wrote:
> On 6/4/2011 6:20 PM, Wimpie wrote:
>> On 4 jun, 23:26, John S<soph...@invalid.org> wrote:
>>> On 5/24/2011 8:47 AM, Wimpie wrote:
>
>>> Well, I have applied some numbers today and I am changing my mind that
>>> the trees are not the problem.
>>>
>>> If my numbers are correct: The repeater, 19 miles away, is 1900 feet
>>> above his elevation. At that distance, the antenna will appear be about
>>> 240 feet lower than actual due to earth curvature. That makes the
>>> antenna appear to be about 0.954 degrees above the horizon.
>>>
>>> That is equivalent to 60 feet at 3600 feet. In other words, 60 foot
>>> trees closer in will be completely in the way. The hurtful part of this
>>> is that his antenna at 45 feet will have a lowest angle of radiation
>>> (take-off angle) of .7 degrees, right into the near trees. The next lobe
>>> above that is at 2.2 degrees. Between those two lobes is a null.
>>>
>>> In short, I think his antenna is in a null. I think the only answer for
>>> his present situation is to raise the antenna another 10 feet.
>>>
>>> What do you think?
>>>
>>> 73,
>>> John
>>
>> Hello John,
>>
>> This link:
>> http://www.tetech.nl/divers/Kirk_Repeater_USA_1.png
>> shows the path profiles with and without trees (from Radio Mobile,
>> VE2DBE). I will keep it there for some weeks.
>> I used 30m (98ft) high trees (so they are easy to see).
>>
>> The trees cover some additional part of the first fresnel zone, but
>> the average canopy will be lower and the absorption loss is not that
>> high at 146 MHz.
>>
>> So yes, there is influence from the trees, but not that much I think.
>> If you want to get some increase in signal, you need to remove lots of
>> them, and he don't want to do that. Note that the first trees are
>> 160m away from his antenna (info from google earth, based on data
>> provided by Kirk).

>>
>> With kind regards,
>>
>>
>> Wim
>> PA3DJS
>> www.tetech.nl
>
>
> In that case, perhaps it is due to his antenna being at a height that
> puts the target into a null. Along with low repeater output power, I
> suppose that could cause it.
>
> Thanks, Wim.
>
> 73,
> John - KD5YI

Okay. I take that back. I just ran a simulation with EZNEC and it shows twice as much uV available at the receiver than Radio Mobile, so my conclusion is that a pattern null is not involved. I'm stumped.

73,
John

1402. Re: Why do WiFi basestations use two antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 01:46:13 UTC
From: david <none@nospam.com>
Message-ID: <ishbh5$789$1@dont-email.me>
Source record: 4603

On Sun, 05 Jun 2011 02:10:36 -0500, moronsbegone rearranged some electrons
to say:

> Paul Burridge <pb@notthisbit.osiris1.co.uk> wrote in
> news:5okam0d8i2qh7emsfa6dbdg7oqca17m4cu@4ax.com:
>
>> On Thu, 7 Oct 2004 12:00:52 +0100, "Daniel Kelly \(AKA Jack\)"
>> <d.kellyNOSPAM@NOSPAM.ucl.ac.uk> wrote:
>>
>>>A little more info about my system:
>>>The system is part of a wearable camera with recorder. The camera,
>>>transmitter, microphone and a battery are all worn in a hat.
>>
>> A hat?? What kind of a weirdo are you?
>
> Could be a decoy or cop,mountain biker or sports related.

I'm curious as to why you're replying to a nearly 7 year old post.

1403. Re: Why do WiFi basestations use two antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 02:09:32 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <27fc785b-5e6e-4307-b6e6-b108d655b220@d26g2000prn.googlegroups.com>
Source record: 4604
Body handling: HTML body converted to readable text

On Jun 5, 12:10 am, moronsbegone wrote:
> Paul Burridge wrote innews:5okam0d8i2qh7emsfa6dbdg7oqca17m4cu@4ax.com:
>
> > On Thu, 7 Oct 2004 12:00:52 +0100, "Daniel Kelly \(AKA
> > Jack\)" wrote:
>
> >>A little more info about my system:
> >>The system is part of a wearable camera with recorder. The
> >>camera, transmitter, microphone and a battery are all worn
> >>in a hat.
>
> > A hat?? What kind of a weirdo are you?
>
> Could be a decoy or cop,mountain biker or sports related.

I have a wearable camera and transmitter in my underwear. Does that
make me a weirdo?

"Rep. Weiner"

1404. Re: Why do WiFi basestations use two antennas?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 07:02:53 UTC
From: Brian Gaff <Briang1@blueyonder.co.uk>
Message-ID: <ishu2t$q7s$1@dont-email.me>
Source record: 4605

Many systems that include a need for portability with something approaching
continuous coverage need to use diversity reception to achieve this. The
problem of nulls at these frequencies is quite bad, as we all know when we
try to use mobile phones..It only works if I stand on a chair and raise my
right leg, syndrome.

Brian

--
Brian Gaff - briang1@blueyonder.co.uk
Note:- In order to reduce spam, any email without 'Brian Gaff'
in the display name may be lost.
Blind user, so no pictures please!
"moronsbegone" <NoThanx@never.org> wrote in message
news:Xns9EFB162A13C22notnowneverorg@127.0.0.1...
> Paul Burridge <pb@notthisbit.osiris1.co.uk> wrote in
> news:5okam0d8i2qh7emsfa6dbdg7oqca17m4cu@4ax.com:
>
>> On Thu, 7 Oct 2004 12:00:52 +0100, "Daniel Kelly \(AKA
>> Jack\)" <d.kellyNOSPAM@NOSPAM.ucl.ac.uk> wrote:
>>
>>>A little more info about my system:
>>>The system is part of a wearable camera with recorder. The
>>>camera, transmitter, microphone and a battery are all worn
>>>in a hat.
>>
>> A hat?? What kind of a weirdo are you?
>
> Could be a decoy or cop,mountain biker or sports related.

1405. Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 11:39:29 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <isie9hifm1@dont-email.me>
Source record: 4606

```
Is it a silly and dangerous idea?
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and farces be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.39.1
^ ^ 19:36:01 up 1 day 22:55 0 users load average: 0.03 0.05 0.05
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1406. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 17:26:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3c3qu6pab59pcoukas9fsuucq8d9ciudhe@4ax.com>
Source record: 4607

On Mon, 06 Jun 2011 19:39:29 +0800, Man-wai Chang
<toylet.toylet@gmail.com> wrote:

>
>Is it a silly and dangerous idea?

All depends on what you mean by "ground loop" (which has a distinct
engineering meaning that could be dangerous, yes).

73's
Richard Clark, KB7QHC

1407. Re: balcony railing mount for DBS dish

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 17:27:37 UTC
From: Robert Peirce <bob@peirce-family.com>
Message-ID: <bob-8111D5.13273706062011@5ad64b5e.bb.sky.com>
Source record: 4608

In article <Xns9EFA2443A5FE9notnowneverorg@127.0.0.1>,
moronsbegone <NoThanx@never.org> wrote:

> Not only that, If he uses NO nails or drills NO holes for screws
> he is not adding to the structure perminantly witch is a no no
> [common sense]. I would use a series of clamps, and not leave it
> up in bad weather or when I am away , seems as though temporary
> would be a better aproach. I'm having alot of luck using mine
> indoors LoL.

Or do what I do. Mount it on a tripod and aim it so you can shove two
legs again the rail and hold it place with a bungee chord. That makes
it a breeze to take in and put up.

1408. Re: balcony railing mount for DBS dish

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 18:10:39 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <isj56v$872$1@news.jpl.nasa.gov>
Source record: 4609

On 6/6/2011 10:27 AM, Robert Peirce wrote:
> In article<Xns9EFA2443A5FE9notnowneverorg@127.0.0.1>,
> moronsbegone<NoThanx@never.org> wrote:
>
>> Not only that, If he uses NO nails or drills NO holes for screws
>> he is not adding to the structure perminantly witch is a no no
>> [common sense]. I would use a series of clamps, and not leave it
>> up in bad weather or when I am away , seems as though temporary
>> would be a better aproach. I'm having alot of luck using mine
>> indoors LoL.
>
> Or do what I do. Mount it on a tripod and aim it so you can shove two
> legs again the rail and hold it place with a bungee chord. That makes
> it a breeze to take in and put up.

You could make a sort of customized fixture, too, that "mates" with the railing, so that you just sort of click it into position, and it's automatically aligned properly. A piece of wood with notches that align with the vertical rails, for instance. If you want something more weatherproof than wood, a polyethylene cutting board makes a great material to work with. Easy to cut, indestructible, etc.

Velcro is also your friend. A strap with velcro to snug it up against the rail would work pretty well. Much faster than some sort of clamp scheme, typically, and less likely to arouse the ire of a landlord who doesn't want clamp marks. (any sort of screw clamp is inevitably going to loosen, or be over tightened, etc.)

1409. Re: balcony railing mount for DBS dish

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-06 23:47:04 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isjotn$d01$4@dont-email.me>
Source record: 4610

On 6/6/2011 10:27 AM, Robert Peirce wrote:
> In article<Xns9EFA2443A5FE9notnowneverorg@127.0.0.1>,
> moronsbegone<NoThanx@never.org> wrote:
>
>> Not only that, If he uses NO nails or drills NO holes for screws
>> he is not adding to the structure perminantly witch is a no no
>> [common sense]. I would use a series of clamps, and not leave it
>> up in bad weather or when I am away , seems as though temporary
>> would be a better aproach. I'm having alot of luck using mine
>> indoors LoL.
>
> Or do what I do. Mount it on a tripod and aim it so you can shove two
> legs again the rail and hold it place with a bungee chord. That makes
> it a breeze to take in and put up.

Mount it atop a refrigerator unit, on the porch, use the refrige to keep
your beer in -- no one could ask you to remove that from the porch!

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1410. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 01:39:09 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <9784d6f8-b3be-48c2-a9fc-5a2bff46e5f1@s2g2000yql.googlegroups.com>
Source record: 4611

Update on the 10 meter Lazy H...

I did a little reading on ladder line at the web page below;

http://www.athensarc.org/ladder.asp

and then in the ARRL handbook.

With the knowledge gained form the two sources I made the following changes;

I changed the length of the 450 ohm ladder line feeding the antenna to make sure it was not a multiple of a 1/2 wavelength at 10 meters, and the antenna tuner was able to tune the Lazy H more easily. I also suspect there may be a problem with the balun in the Dentron MT-3000a tuner. When I hook up the Drake MN-75 tuner with the internal 4:1 balun I hand wound myself I am seeing gain from the Lazy H antenna in it's preferred direction compared to the dipole, but when I switch to the Dentron MT-3000a I am not seeing gain when I compare the dipole to the Lazy H. I think I am going to remove the factory balun from the Dentron MT-3000a and hand wind a new 4:1 balun for it.

Michael Rawls
KS4HY

1411. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1307426700@panix.com>
Source record: 4612
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

1412. Power Over Ethernet as a radio antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 08:49:37 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <iskon2$594$3@dont-email.me>
Source record: 4613

```
Another silly idea?
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and farces be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.39.1
^ ^ 16:44:02 up 2 days 20:03 0 users load average: 1.12 1.09 1.07
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1413. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 12:53:45 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <b42175a6-8bdf-473a-b4d4-f4d1e8fc2c5a@gc3g2000vbb.googlegroups.com>
Source record: 4614

On Jun 6, 9:39 pm, Michael <goo...@shadowstorm.com> wrote:
> Update on the 10 meterLazyH...
>
> I did a little reading on ladder line at the web page below;
>
> http://www.athensarc.org/ladder.asp
>
> and then in the ARRL handbook.
>
> With the knowledge gained form the two sources I made the following
> changes;
>
> I changed the length of the 450 ohm ladder line feeding theantenna
> to make sure it was not a multiple of a 1/2 wavelength at 10 meters,
> and theantennatuner was able to tune theLazyHmore easily. I also
> suspect there may be a problem with the balun in the Dentron MT-3000a
> tuner. When I hook up the Drake MN-75 tuner with the internal 4:1
> balun I hand wound myself I am seeing gain from theLazyHantennain
> it's preferred direction compared to the dipole, but when I switch to
> the Dentron MT-3000a I am not seeing gain when I compare the dipole to
> theLazyH. I think I am going to remove the factory balun from the
> Dentron MT-3000a and hand wind a new 4:1 balun for it.
>
> Michael Rawls
> KS4HY

I did some searching on the Internet concerning the use of the Dentron
MT-3000a tuner and using the balun for 450 ohm ladder line on10
meters, and I found the following post from K8JS on a eham.net review
of the Dentron MT-3000a tuner..

Below is K8JS's post on eham.net...

==========
K8JS Rating: 3/5 Feb 22, 2004 00:59 Send this review to a friend
Basically Is OK, but not the best Tuner Out There Time owned: more
than 12 months

...<snip>...

I also ran balanced feedline antennas at that time, and discovered
that the built-in balun was badly UN-balanced at it's "balanced" port
for 10 thru 20 meters.
To help remedy that problem I had to replace it with a physically

larger, and much superior "Super Balun" from Palomar that barely physically fit within the tuner's chassis.
So - with correcting the coil's grounded end making a better contact to the chassis, replacing the unit's inferior balun, and gingerly operating those flakey rectangular switched, I was able to continue to use that otherwise very nice tuner for several more years. ---John, K8JS

==========

Well, looks like it is time to replace the stock Dentron MT-3000a 4:1 balun with a home made one.

Michael Rawls
KS4HY

1414. Re: Power Over Ethernet as a radio antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 15:14:59 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <8kfsu6hihtciju2989kqkg7o8jlt7nldco@4ax.com>
Source record: 4615

On Tue, 07 Jun 2011 16:49:37 +0800, Man-wai Chang
<toylet.toylet@gmail.com> wrote:

>Another silly idea?

Bad idea. It might work in transmit, but in receive, all you're going to hear is the broadband noise coming from whatever data is moving on the ethernet pairs. There is some isolation between the CAT5 wire pairs, but not enough to prevent noise coupling entirely. Even if you borrowed and isolated one of the two pairs used for 802.3af and 802.3at for the antenna, you would still experience considerable noise pickup.

"When all the bad ideas have been eliminated, whatever remains, no matter how improbable, must be a good idea."
(Me, in about 1980 during a design review)

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1415. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 15:36:33 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <e4gsu6t06adlkono2lbo3ud8r0af97jf39@4ax.com>
Source record: 4616

On Mon, 06 Jun 2011 19:39:29 +0800, Man-wai Chang
<toylet.toylet@gmail.com> wrote:

>Is it a silly and dangerous idea?

If you mean using the power line for part of an antenna, and the earth ground (through the power lines) as the rest, it's both dangerous and impractical. One mistake in wiring an you have a fried customer. The impedance of this contrivance is also indeterminant and non-constant, making matching both a transmitter and receiver difficult and expensive. The low impedance of the ground loop (almost a short circuit) is going to be difficult to match at both 1MHz and 100Mhz. There's also an amazing amount of RF noise present on the power lines, which your AM/FM receiver is not going to appreciate.

In the distant past, I recall some vendor adding a 4th wire to the power cord, and using it for an antenna. It worked when there was fairly clean power, but failed badly if there was a noise generator (usually motors) on the line.

Back in the early 1960's, I got my childhood start in electronics when I read an advertisement in Popular Electronics(?) for a power line adapter to "Turn Your House Wiring into a Giant 1000ft TV Antenna". Inside the magic box was a "capacitator", which coupled the twinlead antenna terminals to the AC power line. It didn't work, but I didn't know that. This was in the days of AC/DC radios and TV's, with no AC transformer isolation. I was saved from a premature demise by reversing the power plug to see if it would improve reception, and blowing the main fuse.
<http://books.google.com/books?id=--8DAAAAMBAJ&pg=PT23>
<http://books.google.com/books?id=O_QDAAAAMBAJ&pg=PA30>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1416. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 19:00:32 UTC
From: Bruce Gordon <fast@btpost.net>
Message-ID: <fast-4336A4.11002307062011@news.starband.net>
Source record: 4617

In article <e4gsu6t06adlkono2lbo3ud8r0af97jf39@4ax.com>,
Jeff Liebermann <jeffl@cruzio.com> wrote:

> On Mon, 06 Jun 2011 19:39:29 +0800, Man-wai Chang
> <toylet.toylet@gmail.com> wrote:
>
> >Is it a silly and dangerous idea?
>
> If you mean using the power line for part of an antenna, and the earth
> ground (through the power lines) as the rest, it's both dangerous and
> impractical. One mistake in wiring an you have a fried customer. The
> impedance of this contrivance is also indeterminant and non-constant,
> making matching both a transmitter and receiver difficult and
> expensive. The low impedance of the ground loop (almost a short
> circuit) is going to be difficult to match at both 1MHz and 100Mhz.
> There's also an amazing amount of RF noise present on the power lines,
> which your AM/FM receiver is not going to appreciate.
>
> In the distant past, I recall some vendor adding a 4th wire to the
> power cord, and using it for an antenna. It worked when there was
> fairly clean power, but failed badly if there was a noise generator
> (usually motors) on the line.
>
> Back in the early 1960's, I got my childhood start in electronics when
> I read an advertisement in Popular Electronics(?) for a power line
> adapter to "Turn Your House Wiring into a Giant 1000ft TV Antenna".
> Inside the magic box was a "capacitator", which coupled the twinlead
> antenna terminals to the AC power line. It didn't work, but I didn't
> know that. This was in the days of AC/DC radios and TV's, with no AC
> transformer isolation. I was saved from a premature demise by
> reversing the power plug to see if it would improve reception, and
> blowing the main fuse.
> <http://books.google.com/books?id=--8DAAAAMBAJ&pg=PT23>
> <http://books.google.com/books?id=O_QDAAAAMBAJ&pg=PA30>

Not so dangerous or silly, in all reality.....

Apparently you have never heard of "Carrier Current Transmissions"....
Back 4+ decades ago, I was Chief Engineer of a College Campus Student
run Radio Station, that used the Campus Power Distribution System as the
Transmission Line and Antenna for our AM Broadcast operations. Each of
the Systems transformers in each building was bridged with .1 uf 10,000
Vac Capacitors to conduct the RF around them and into the buildings. All
the Distribution was done via buried Metal Conduits, which acted like
coax, and kept our "Over the Air" Signal Strength within FCC Part 15

Limits at the time. We used a 100 Watt Transmitter coupled into the Secondary of the Main Campus Feed SubStation Transformer, which was in an Basement Vault, in one of the Campus buildings. Worked just "Spiffy" and we were even inspected by the FCC yearly and were in compliance with all FCC Rules and Regulations for Part 15 emissions, in place at the time. Same basic concept is still used today, by the X10 System of Whole House Control Systems, and by the Ethernet over PowerLine Adapters that are in use today. Not Magic, just plain OLD Technology at work.

--
Bruce in Alaska add path before the @ for email

1417. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-07 23:07:25 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <k39tu6detv24t1eqa30u84fj1vuesjkllk@4ax.com>
Source record: 4618

On Tue, 07 Jun 2011 11:00:32 -0800, Bruce Gordon <fast@btpost.net>
wrote:

>In article <e4gsu6t06adlkono2lbo3ud8r0af97jf39@4ax.com>,
> Jeff Liebermann <jeffl@cruzio.com> wrote:
>
>> On Mon, 06 Jun 2011 19:39:29 +0800, Man-wai Chang
>> <toylet.toylet@gmail.com> wrote:
>>
>> >Is it a silly and dangerous idea?
>>
>> If you mean using the power line for part of an antenna, and the earth
>> ground (through the power lines) as the rest, it's both dangerous and
>> impractical. One mistake in wiring an you have a fried customer. The
>> impedance of this contrivance is also indeterminant and non-constant,
>> making matching both a transmitter and receiver difficult and
>> expensive. The low impedance of the ground loop (almost a short
>> circuit) is going to be difficult to match at both 1MHz and 100Mhz.
>> There's also an amazing amount of RF noise present on the power lines,
>> which your AM/FM receiver is not going to appreciate.
>>
>> In the distant past, I recall some vendor adding a 4th wire to the
>> power cord, and using it for an antenna. It worked when there was
>> fairly clean power, but failed badly if there was a noise generator
>> (usually motors) on the line.
>>
>> Back in the early 1960's, I got my childhood start in electronics when
>> I read an advertisement in Popular Electronics(?) for a power line
>> adapter to "Turn Your House Wiring into a Giant 1000ft TV Antenna".
>> Inside the magic box was a "capacitator", which coupled the twinlead
>> antenna terminals to the AC power line. It didn't work, but I didn't
>> know that. This was in the days of AC/DC radios and TV's, with no AC
>> transformer isolation. I was saved from a premature demise by
>> reversing the power plug to see if it would improve reception, and
>> blowing the main fuse.
>> <http://books.google.com/books?id=--8DAAAAMBAJ&pg=PT23>
>> <http://books.google.com/books?id=O_QDAAAAMBAJ&pg=PA30>
>
>Not so dangerous or silly, in all reality.....
>
>Apparently you have never heard of "Carrier Current Transmissions"....
>Back 4+ decades ago, I was Chief Engineer of a College Campus Student
>run Radio Station, that used the Campus Power Distribution System as the
>Transmission Line and Antenna for our AM Broadcast operations. Each of

>the Systems transformers in each building was bridged with .1 uf 10,000
>Vac Capacitors to conduct the RF around them and into the buildings. All
>the Distribution was done via buried Metal Conduits, which acted like
>coax, and kept our "Over the Air" Signal Strength within FCC Part 15
>Limits at the time. We used a 100 Watt Transmitter coupled into the
>Secondary of the Main Campus Feed SubStation Transformer, which was in
>an Basement Vault, in one of the Campus buildings. Worked just "Spiffy"
>and we were even inspected by the FCC yearly and were in compliance with
>all FCC Rules and Regulations for Part 15 emissions, in place at the
>time. Same basic concept is still used today, by the X10 System of Whole
>House Control Systems, and by the Ethernet over PowerLine Adapters that
>are in use today. Not Magic, just plain OLD Technology at work.

Touche. I helped build the initial FM station and later the AM carrier current system while a student at Cal Poly Pomona in the early 1960's.

The key component was a ferrite transformer, that would pass 1MHz RF, but not 60 Hz AC. I forgot the name of the vendor. There was one central transmitter, a power splitter, coax cable to each of the dormitory buildings (because each had separate power xformers), and a ferrite transformer RF coupler to the building power lines. It worked, but student that were accustomed to the FM (mono) quality were disappointed with the noisy AM signal. I vaguely recall that it lasted about 5 years after I left.

Other than running underground cables, dealing with building inspectors, and handling listener complaints, I didn't have much experience with the carrier current AM hardware. It worked, for AM.

However, the author also wanted FM, presumably for an AM/FM receiver. Transmitting carrier current AM is one things, receiving is another. For entertainment value, put a small value capacitor between the antenna terminal of your receiver or spectrum analyzer and the power line. Yes, it will be mismatched and lossy, but good enough to demonstrate the large amount of noise found on the power lines.

Carrier current ethernet (HomePlug) does a decent job of moving data through such noisy lines by using broadband techniques 2-28Mhz for HomePlug AV, 2-50Mhz for IEEE901, and more for HomePlug AV2. With such lavish bandwidth, communications frequencies can be dynamically adjusted to use only those frequencies that aren't being clobbered by noise and interference. That can't be done with broadcast AM/FM, where each station is stuck on a specific frequency.

The only people that claim that X10 works are those that haven't used it. I have quite a collection of X10 and BSR modules sitting in a box somewhere. The problem is that X10 is a one way protocol. You send, and hope that something happens at the other end. No handshake, no error recovery, no reliability. I've used it in various locations with disgusting results. X10 also doesn't communicate audio, but various "wireless" intercoms that use the same 120Khz carrier

frequency. I also have a few of those stored, after I became tired of the line noises and buzz it would belch.

You do have a point, that is possible to use the power lines as an antenna or communications media safely. However, judging by the quality of the original question, I suspect that the OP might not be very well versed in how to do it safely.

--
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831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1418. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 00:57:23 UTC
From: tom <news4792@taring.org>
Message-ID: <4deec8f2$0$74947$8046368a@newsreader.iphouse.net>
Source record: 4619

On 6/7/2011 6:07 PM, Jeff Liebermann wrote:
> The only people that claim that X10 works are those that haven't used
> it. I have quite a collection of X10 and BSR modules sitting in a box
> somewhere. The problem is that X10 is a one way protocol. You send,
> and hope that something happens at the other end. No handshake, no
> error recovery, no reliability. I've used it in various locations
> with disgusting results. X10 also doesn't communicate audio, but
> various "wireless" intercoms that use the same 120Khz carrier
> frequency. I also have a few of those stored, after I became tired of
> the line noises and buzz it would belch.
>

I'll buy whatever you have.

I've been using it for 20 years or so, maybe more, not sure. Doesn't miss a beat. It depends on how you use it. Don't try to control things on other phases/other side of 220.

Similar to the issues with building BPL where you need to feed all phases. BTDT too. And in-building BPL, at least as built by Motorola in the mid 2000's, doesn't make much more than S9 even if the coax feed is connected directly to an amateur receiver, so is ham friendly. It may no longer be so, no data available after 2006 for me.

tom
K0TAR

1419. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 04:46:59 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ccttu6l1pfgjnro41ok8rsims4mqeuk6js@4ax.com>
Source record: 4620

On Tue, 07 Jun 2011 19:57:23 -0500, tom <news4792@taring.org> wrote:

>On 6/7/2011 6:07 PM, Jeff Liebermann wrote:
>> The only people that claim that X10 works are those that haven't used
>> it. I have quite a collection of X10 and BSR modules sitting in a box
>> somewhere. The problem is that X10 is a one way protocol. You send,
>> and hope that something happens at the other end. No handshake, no
>> error recovery, no reliability. I've used it in various locations
>> with disgusting results. X10 also doesn't communicate audio, but
>> various "wireless" intercoms that use the same 120Khz carrier
>> frequency. I also have a few of those stored, after I became tired of
>> the line noises and buzz it would belch.
>>
>
>I'll buy whatever you have.

Sure. I'll collect what I can find and send you a photo. We can
haggle later over the price (i.e. anything that covers the shipping).

>I've been using it for 20 years or so, maybe more, not sure. Doesn't
>miss a beat. It depends on how you use it. Don't try to control things
>on other phases/other side of 220.

There are tuned xformers to couple the 120Khz to different phases.
<http://www.smarthome.com/4820X/X10-XPCR-X10-Signal-Coupler-Repeater/p.aspx>
(You might find some of the user comments under the above URL rather
enlightening).

Sometimes, there's enough coupling between phases for it to work
without the xformer or repeater. Unfortunately, the places where I
tried to use X10 boxes were plagued with noisy power lines. Some of
it was the fault of the power company, which was eventually fixed
years later. The rest were HVAC motors, an electrostatic dust
precipitator, and oddities such as a negative ion generator, electric
shavers, and a noisy neon sign. I made the X10 work by programming
the controller to repeat all on/off commands 4 times, but that didn't
work with dimming or toggled outputs. After having someone slip and
fall in the dark, because the X10 system failed to turn on the outside
lights, the system was pulled and replaced with one that was hard
wired.

>Similar to the issues with building BPL where you need to feed all
>phases. BTDT too. And in-building BPL, at least as built by Motorola
>in the mid 2000's, doesn't make much more than S9 even if the coax feed
>is connected directly to an amateur receiver, so is ham friendly. It
>may no longer be so, no data available after 2006 for me.

That would be the MU (Multi-Unit) system.
<http://www.netlinkweb.com/solutions/motorola/BPL-applications/BPL-MU.asp>
I have no experience with that one. Did you look at it on a spectrum analyzer? Motorola is one of the few BPL vendors that supplies devices that intentionally filter out "sensitive" bands, such as ham radio. My understanding (possibly wrong) is that since the entire building shares the same wiring, the bandwidth per user is limited during peak times.

User manual (9MB PDF):
<http://motorola.wirelessbroadbandsupport.com/software/sw_downlink_public.php?id=80806d75ff44060653d82a6204a05462>
See Pg 43 for the Bandwidth Manager settings. 42.5Mbits/sec maximum for the entire building.

Pg 54 has something called Power Spectral Density, which include mention that the power output is +22dBm (160mw) per carrier(?) for US rules, but can be cranked up considerably higher. With 84 channels, that's quite a bit of RF. Are you sure it's not a noise generator?

Pg 55 has the frequency chart, including notchos.
4.5-21Mhz, with notches at 5.5, 7.3, 10.3, 14.2-14.6, and 18.2Mhz. If you tested at 40 and 20 meters, you probably wouldn't have heard anything. Oddly, the notch at 18.2 should have been 18.1 for the 17 meter ham band.

Pg 78 shows how the user can monitor and set the frequencies in use.
It includes the comment:
"Grayed out values are reserved HAM radio frequencies and cannot be adjusted."
which may explain why you didn't hear much.

There are some interesting graphs starting on Pg 110.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1420. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 12:54:49 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <2b29207c-71ea-42ed-90fd-27046bb21d11@e21g2000vbz.googlegroups.com>
Source record: 4621

Woohoo! The center fed Lazy H is now working with gain in it's most favored directions, and it is now consistently out performing the dipole. I had already pointed the extended double zepp in another direction, so I'm not sure if the Lazy H is out performing the extended double zepp.

Below are the following real world lessons I learned from building the Lazy H wire antenna in the real world. Hopefully it will save future builders some time.

1) Make sure the 450 ohm ladder line exiting the center of the Lazy H back to the antenna tuner goes away from the Lazy H at a 90 degree angle for at least a full wavelength or more or it will skew the radiation pattern of the antenna.

2) Cut the 450 ohm ladder line going back to the tuner to a length that is NOT a multiple of a half wavelength on the frequency (or frequencies) you plan to use the antenna on. In my case since I only plan to use the Lazy H on 10 meters I found the length required to get back to the radio room, and then I added length until the total length landed in between multiples of a 1/2 wave at the antenna design frequency. The antenna tuner was more easily able to tune the Lazy H once I did that. When I measured the total length of the ladder line feeding the Lazy H I included one half of the phasing line that connected the top and bottom elements.

3) Do not allow sag in the ladder line back to the antenna tuner where the exiting ladder line falls close to the bottom half of the 450 ohm phasing line that is used to connect the top and bottom of the Lazy H or the SWR reading will go up noticeably.

4) The setting on the antenna tuner where a lowest SWR is tuned may not be the same setting where the receiver receives the strongest signal from the antenna. This quirk may be specific to my Dentron MT-3000a tuner and it's internal factory balun.

5) Following number 2 above will probably avoid this situation, but if your antenna tuner is unable to match the Lazy H at any setting change the length of the ladder line feeding the Lazy H.

Michael Rawls
KS4HY

1421. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 14:16:26 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <vKKdnR11pdyoGXLQnZ2dnUVZ_uCdnZ2d@bright.net>
Source record: 4622

Dear Michael KS4HY: Thanks for the up-date. You have indicated some ways to deal with the issues you encountered.

To emphasize what others have said: The issues you encountered would have been attenuated with common-mode chokes being used at feed-points (and perhaps at strategic places farther along).

73, Mac N8TT

"Michael" wrote in message news:2b29207c-71ea-42ed-90fd-27046bb21d11@e21g2000vbz.googlegroups.com...

Woohoo! The center fed Lazy H is now working with gain in it's most favored directions, and it is now consistently out performing the dipole. I had already pointed the extended double zepp in another direction, so I'm not sure if the Lazy H is out performing the extended double zepp.

Below are the following real world lessons I learned from building the Lazy H wire antenna in the real world. Hopefully it will save future builders some time.

1) Make sure the 450 ohm ladder line exiting the center of the Lazy H back to the antenna tuner goes away from the Lazy H at a 90 degree angle for at least a full wavelength or more or it will skew the radiation pattern of the antenna.

2) Cut the 450 ohm ladder line going back to the tuner to a length that is NOT a multiple of a half wavelength on the frequency (or frequencies) you plan to use the antenna on. In my case since I only plan to use the Lazy H on 10 meters I found the length required to get back to the radio room, and then I added length until the total length landed in between multiples of a 1/2 wave at the antenna design frequency. The antenna tuner was more easily able to tune the Lazy H once I did that. When I measured the total length of the ladder line feeding the Lazy H I included one half of the phasing line that connected the top and bottom elements.

3) Do not allow sag in the ladder line back to the antenna tuner where the exiting ladder line falls close to the bottom half of the 450 ohm phasing line that is used to connect the top and bottom of the Lazy H or the SWR reading will go up noticeably.

4) The setting on the antenna tuner where a lowest SWR is tuned may not be the same setting where the receiver receives the strongest signal from the antenna. This quirk may be specific to my Dentron

MT-3000a tuner and it's internal factory balun.

5) Following number 2 above will probably avoid this situation, but if your antenna tuner is unable to match the Lazy H at any setting change the length of the ladder line feeding the Lazy H.

Michael Rawls
KS4HY

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

1422. Any ideas on the screen reflector size for a Lazy H antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 14:37:38 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <6f64fbed-842b-403c-99c4-9c72709f4344@p23g2000vbl.googlegroups.com>
Source record: 4623

I've noticed several sites (and books) show screen reflectors for various multiple driven element broadside arrays, but I have not seen any dimensions given for a screen reflector. I am aware that a parasitic reflector for a yagi is about 5% longer than the driven element. Is the same true for a screen reflector for a broadside array like the Lazy H antenna?

For instance, since the total length for the two top horizontal 1/2 wave elements in a Lazy H are generally 1 wavelength long plus the width of the center insulator does that mean a screen reflector should be roughly 5% longer than the total side to side width of the Lazy H antenna? Also is the best spacing between the Lazy H and the screen reflector the typical 0.2 wavelength shown for a Yagi beam antenna driven element and the parasitic reflector? If not is there a formula for determining the width and height of the screen reflector as well as the spacing between the Lazy H and the screen reflector for a broadside array like a Lazy H?

Thanks,

Michael Rawls
KS4HY

1423. Re: Any ideas on the screen reflector size for a Lazy H antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 15:41:54 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iso582qps1@news.jpl.nasa.gov>
Source record: 4624

On 6/8/2011 7:37 AM, Michael wrote:
> I've noticed several sites (and books) show screen reflectors for
> various multiple driven element broadside arrays, but I have not seen
> any dimensions given for a screen reflector. I am aware that a
> parasitic reflector for a yagi is about 5% longer than the driven
> element. Is the same true for a screen reflector for a broadside
> array like the Lazy H antenna?
>

Screen reflectors aren't critical in terms of size.. bigger is better,
of course, and there's some sort of point of diminishing returns, but
basically, it's providing some approximation of a "infinite perfectly
conducting plane"... Sort of like a counterpoise for a vertical monopole..

Now, one could greatly reduce the amount of wire needed at the expense
of bandwidth, etc., by putting a tuned reflector in, as you've noted.

1424. Re: How to make an excellent wifi (802.11 b/g/n) antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 19:05:55 UTC
From: G Cornelius <cornelius@eisner.decus.org>
Message-ID: <4defc813$0$75676$815e3792@news.qwest.net>
Source record: 4625

moronsbegone wrote:
> If the unit has high dollar choices of hard ware use a DRAC 5
> net card, our Dell servers use them, When you Telnet into them
> and command a shutdown, it does not argue, it shuts down even
> at the cost of head crash!!!!

In what universe does a hard shutdown cause a head crash?

The reason you don't want a hard shutdown (other than spyware
having to flush everything it has gathered out the network
interface) is to make sure everything gets written to disk.

Painful to lose the last few seconds worth of disk updates,
perhaps, but far from a head crash.

And, yes, remote management consoles are useful.

1425. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-08 19:53:50 UTC
From: nm5k@wt.net
Message-ID: <a0a2c3b1-6bd0-4339-9174-8d1a2449025e@glegroupsg2000goo.googlegroups.com>
Source record: 4626

On Wednesday, June 8, 2011 7:54:49 AM UTC-5, Michael wrote:

>
> 4) The setting on the antenna tuner where a lowest SWR is tuned may
> not be the same setting where the receiver receives the strongest
> signal from the antenna. This quirk may be specific to my Dentron
> MT-3000a tuner and it's internal factory balun.

You should always use the tuner setting that provides
an acceptable match using the least amount of inductance.
"coil turns, or wound inductor tap setting".
I think you will find that the settings that provide the
least loss, and yes, the receive noise is one way to gauge,
will correspond with the settings using the least inductance.
And the match doesn't have to be a perfect 1:1.. As long as
the rig will put out full power, it's good enough.

1426. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 02:48:45 UTC
From: tom <news4792@taring.org>
Message-ID: <4df03491$0$74946$8046368a@newsreader.iphouse.net>
Source record: 4627

On 6/7/2011 11:46 PM, Jeff Liebermann wrote:
>
> That would be the MU (Multi-Unit) system.
> <http://www.netlinkweb.com/solutions/motorola/BPL-applications/BPL-MU.asp>
> I have no experience with that one. Did you look at it on a spectrum
> analyzer? Motorola is one of the few BPL vendors that supplies
> devices that intentionally filter out "sensitive" bands, such as ham
> radio. My understanding (possibly wrong) is that since the entire
> building shares the same wiring, the bandwidth per user is limited
> during peak times.
>

I looked at it band by band for the US amateur bands. I believe I also check out of band here and there, but it was 5 or 6 years ago. And that was straight from the transmitter level with a 1 meter cable and a 75 to 50 ohm mismatch.

I also swept our area 30 to 30 on HF with a not great hunk of wire and heard nothing beyond the normal ethernet, PC, printer and other office furniture. But nothing from the BPL which had a noticeable pattern.

Shared bandwidth is an issue, but it is also split up by phase, and that helps somewhat.

tom
K0TAR

1427. [OT]

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 03:54:31 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <ispg5r$2or$1@dont-email.me>
Source record: 4628

> <http://books.google.com/books?id=--8DAAAAMBAJ&pg=PT23>
> <http://books.google.com/books?id=O_QDAAAAMBAJ&pg=PA30>

Didn't know that I could read old newspapers via Google books... :)

But then there should be not much Hong Kong newspapers scanned.

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and farces be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.39.1
^ ^ 11:49:01 up 4 days 15:08 0 users load average: 1.03 1.08 1.11
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1428. Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 06:06:00 UTC
From: Camelot <scosmo@tiscalinet.it>
Message-ID: <db56c7b5-fbd4-43e2-a9cb-c1f276478ce2@m40g2000vbt.googlegroups.com>
Source record: 4629

Hello, I have some doubts about standing waves on antennas that I hope you could clarify!
As far as I understood, in a generic transmission line where we want only carry power from a source to a load, we need to cancel the reflected wave by adapting the load with the impedance of the line. The result of this operation is S11=S22=0 and VWWR=1 that means no standing waves.
As far as I understood, in an antenna we want to also avoid standing waves by having VWWR=1 in order to avoid overloading problem to the power stage...
From theory I know that the best radiating condition for an antenna is when it resonates, that is, when there is a standing wave… is that correct? How this condition is compatible with a VWWR=1 (no standing waves) for a good antenna matching? Is there something that I'm not catching?

Regards,

Camelot

1429. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 07:11:55 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <ad794296-65a6-44cc-a39a-04dd6254db19@p9g2000prh.googlegroups.com>
Source record: 4630

On Jun 8, 11:06 pm, Camelot <sco...@tiscalinet.it> wrote:
> Hello, I have some doubts about standing waves on antennas that I hope
> you could clarify!
> As far as I understood, in a generic transmission line where we want
> only carry power from a source to a load, we need to cancel the
> reflected wave by adapting the load with the impedance of the line.
> The result of this operation is S11=S22=0 and VWWR=1 that means no
> standing waves.
> As far as I understood, in an antenna we want to also avoid standing
> waves by having VWWR=1 in order to avoid overloading problem to the
> power stage...
> From theory I know that the best radiating condition for an antenna is
> when it resonates, that is, when there is a standing wave… is that
> correct? How this condition is compatible with a VWWR=1 (no standing
> waves) for a good antenna matching? Is there something that I'm not
> catching?
>
> Regards,
>
> Camelot

I don't know that I'd say that "the best radiating condition for an antenna is when it resonates," necessarily. But certainly a resonant antenna is one that will have standing waves on it when it's excited.

However, the standing waves on a resonant antenna result in radiation by the antenna, and the result of the standing waves, the radiation, and the resonance is that the feedpoint of the antenna looks like a resistance that absorbs power. The exact resistance depends on many things, but in general it's a resistance that either directly provides a good match to a transmission line, or else can be matched to a transmission line with a few components.

By the way, it's also not necessary to have the antenna matched to the transmission line: although a particular line with standing waves delivering a certain amount of power to a load has more loss than the same line delivering power to a matched load (no standing waves), the additional loss from the standing waves may not be a big issue. In fact, it may be better from a lost-power standpoint to use a higher impedance open-wire line with relatively high standing waves, than to use a low impedance line (e.g., coax) with low standing waves, because the loss in the open-wire line can be very low. There are lots of other factors to consider, too, but the point is that you shouldn't assume that it's necessary to get the lowest possible SWR on the transmission line.

Let's take one more step back from this problem. The antenna, whether resonant or not, presents some impedance at its feedpoint. The purpose of the transmission line is to couple power between a transmitter and the antenna feedpoint (or from the antenna feedpoint to a receiver). You don't need to know what's actually going on in the antenna, you only need to know that feedpoint impedance, to select the proper transmission line and possibly a matching network between the line and the antenna's feedpoint. (Well...you also need to be aware of how the metallic conductors of the transmission line may upset the fields around the antenna and possibly provide for decoupling the feedline from the antenna's fields, but that's separate from the issue of coupling power between the antenna and the transmitter/receiver.)

Keep the details of how the antenna does its job--how the current is distributed on the antenna's conductors--separate from how you get power to and from the antenna, and you should be OK.

Cheers,
Tom

1430. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 09:59:21 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <f416d037-240b-47c3-abf3-ec0c03f3f711@f2g2000yqh.googlegroups.com>
Source record: 4631

On 9 jun, 08:06, Camelot <sco...@tiscalinet.it> wrote:
> Hello, I have some doubts about standing waves on antennas that I hope
> you could clarify!
> As far as I understood, in a generic transmission line where we want
> only carry power from a source to a load, we need to cancel the
> reflected wave by adapting the load with the impedance of the line.
> The result of this operation is S11=S22=0 and VWWR=1 that means no
> standing waves.
> As far as I understood, in an antenna we want to also avoid standing
> waves by having VWWR=1 in order to avoid overloading problem to the
> power stage...
> From theory I know that the best radiating condition for an antenna is
> when it resonates, that is, when there is a standing wave… is that
> correct? How this condition is compatible with a VWWR=1 (no standing
> waves) for a good antenna matching? Is there something that I'm not
> catching?
>
> Regards,
>
> Camelot

Hello Camelot,

Resonance in the antenna is not required for producing RF radiation.
Horn shaped structures and flared transmission lines are good
radiators over frequency ranges that can be over 1:5 (for example 1
GHz to 5 GHz). These wide band antennas rely on travelling waves in
their conductors. When the wave goes from the feed point towards the
end of the structure, it gradually attenuates because of the lost
energy due to (desired) radiation. The distribution of the current in
the antenna's conductors (amplitude and phase) determines the
radiation pattern.

Antennas made from thin wires show inconvenient impedance, except for
some special lengths. The best-known example is the halve wave center-
fed dipole. It gives a good match to coaxial transmission lines.
Though it has a good match to a 50 Ohm line (so no standing waves in
the transmission line), there are standing waves in the antenna. The
sinusoidal voltage and current distribution in a half wave dipole is
because of the large VSWR inside the antenna itself.

So the halve wave dipole fed from a 50 Ohms line shows high SWR in the
antenna, but low SWR in the feed line.

The full wave dipole is also in resonance (two end-fed halve wave
antennas), but its impedance is in the several hundreds Ohms to kOhms

range (depending in wire thickness). It has somewhat more directivity then the half wave dipole, but gives large mismatch to coaxial transmission lines. If you drive the full wave dipole directly from a coaxial line (and do the matching in the shack), you will very likely lose most of your transmitting power (in the form of heat in the coaxial feed line).

The full-wave dipole can be fed from an open wire transmission line (ladder line) directly. There will be mismatch at the antenna-feeder transition, but it will be less (ladder line has high char. Impedance). As Tim said, the loss (or attenuation) of the ladder line is significantly below that of coaxial transmission lines, so even high VSWR inside the transmission line will not lead to significant line loss.

Short antennas (length < 0.1 lambda) are good radiators, but their impedance can be so weird that it is impossible to match them to a convenient impedance without excessive loss. The losses are in the matching networks, not in the radiating structure itself.

So generally spoken, resonance (that is ohmic antenna behavior) is not required for an antenna to radiate.

Regarding transmission lines.
Zload = Zcable, is not required for long lines, but gives the lowest loss. Depending on your requirements, you may accept some mismatch between load and line (so standing waves in the line and somewhat increased line loss). Ladder line (parallel wire transmission line) can be used with significant SWR inside the line with relative low loss. The same SWR in a coaxial transmission line with same length may result in too much loss.

Transmission sections are used in matching networks. Well-known example: quarter wave transformer. It does function because of a standing wave part inside the quarter wave line.

Regarding the PA.
The PA just wants to see a certain load impedance to operate properly. With "properly" I mean delivering the stated power without too much stress on the PA's components.

With kind regards,

Wim
PA3DJS
www.tetech.nl
Please tell your racing pigeon to remove abc in case of PM.

1431. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 11:50:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6673428c-4239-40e8-8efa-5c04a725b138@u19g2000vbi.googlegroups.com>
Source record: 4632

On Jun 9, 1:06 am, Camelot <sco...@tiscalinet.it> wrote:
> Hello, I have some doubts about standing waves on antennas that I hope
> you could clarify!

Please forgive the unfinished posting above. It happened without any
action on my part.

First of all, one needs to get one's nomenclature correct. Antennas
like single-wire dipoles and full-wave loops are Standing Wave
Antennas. Standing Wave Antennas always have standing waves on the
antenna. They may or may not have standing waves on the transmission
line.

The 50-75 ohm feedpoint impedance of a 1/2WL dipole is a virtual
impedance, the result of forward and reflected waves superposing into
standing waves on the Standing Wave Antenna. The SWR on the 1/2WL
antenna wire is approximately 20:1. Only about 20% of the total energy
in the RF waves on a 1/2WL dipole is radiated. If 100 watts is being
delivered to the antenna and ~100 watts is being radiated, there is
about 500 watts of joules/second stored on the antenna wire during
steady-state.

Maximum power transfer to the antenna occurs when the antenna *system*
is matched but it is not an impedance match. It is instead a
conjugate match. A system with an SWR of 10:1 on the ladder-line may
(or may not) be a near conjugate match. If it is a near conjugate
match, maximum *available* power will be delivered to the antenna.

To summarize: Standing Wave Antennas, like 1/2WL single-wire dipoles,
require standing waves on the antenna wire.

A flat system, e.g. 50 ohm coax to a 50 ohm antenna, is an impedance
match but it is also a (trivial) conjugate match. In a low-loss
system, a Z0-match guarantees a near conjugate match at the antenna
feedpoint.

A low-loss system with tuned feeders is a (conjugately matched) system
if the impedance looking one direction in the feedline is very close
to the conjugate of the impedance looking in the other direction.

When a Z0-match to 50 ohms is achieved by a tuner (or other network) a
near conjugate match is achieved in a low-loss system. In general, all
low-loss systems that are transferring the maximum amount of available
energy are matched, by definition, i.e. they are a near conjugate
match.

The reason that I say "near" conjugate match is that the conjugate matching theorem doesn't allow resistive losses in the analysis. Of course, there is no such thing as a lossless system in reality.
--
73, Cecil, w5dxp.com

1432. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 12:42:55 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <1fc18059-7872-4059-b793-eddcf301d53c@e21g2000vbz.googlegroups.com>
Source record: 4633

'Standing Waves' are not always a 'dirty' word. It just depends on
where they are and why.
- 'Doc

1433. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 12:53:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <76d9fd3c-47fe-4b95-9240-4f1419e0972c@j28g2000vbp.googlegroups.com>
Source record: 4634

On Jun 9, 7:42 am, "'Doc" <lt...@yahoo.com> wrote:
> 'Standing Waves' are not always a 'dirty' word. It just depends on
> where they are and why.

Exactly. Standing waves are often our friend. When one feeds a 1/2WL dipole with 1/2WL of ladder-line on 80m, one is depending upon the standing waves to transform the impedance looking into the feedline to the same value as it is at the antenna feedpoint. Without the standing waves on the 300 ohm matching section, a G5RV would not work. The transforming characteristics of a 1/4WL matching section depends upon standing waves. The proper functioning of stubs depends upon standing waves.
--
73, Cecil, w5dxp.com

1434. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 15:30:57 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isqovi$5ut$3@dont-email.me>
Source record: 4635

On 6/9/2011 4:50 AM, Cecil Moore wrote:

> ...
> Please forgive the unfinished posting above. It happened without any
> action on my part.
> ...
> --
> 73, Cecil, w5dxp.com

Cecil:

Don't even ask such a silly thing, happens all the time, here.

I just highlight, and then right click the post, of mine, which is in error. If using thunderbird (and I think you are), a menu will pop up, look near the bottom and find "Cancel Message", choosing that will create a popup which will ask you to confirm your wish to delete the message ...

Good luck ...

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain the people, itï¿½s an instrument for the people to restrain the government.ï¿½ -- Patrick Henry

1435. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 15:38:27 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <tbo1v6dmbm71bjlvdrjpa743un8l91e0pn@4ax.com>
Source record: 4636

On Wed, 08 Jun 2011 21:48:45 -0500, tom <news4792@taring.org> wrote:

>On 6/7/2011 11:46 PM, Jeff Liebermann wrote:
>>
>> That would be the MU (Multi-Unit) system.
>> <http://www.netlinkweb.com/solutions/motorola/BPL-applications/BPL-MU.asp>
>> I have no experience with that one. Did you look at it on a spectrum
>> analyzer? Motorola is one of the few BPL vendors that supplies
>> devices that intentionally filter out "sensitive" bands, such as ham
>> radio. My understanding (possibly wrong) is that since the entire
>> building shares the same wiring, the bandwidth per user is limited
>> during peak times.
>>

>I looked at it band by band for the US amateur bands. I believe I also
>check out of band here and there, but it was 5 or 6 years ago. And that
>was straight from the transmitter level with a 1 meter cable and a 75 to
>50 ohm mismatch.
>
>I also swept our area 30 to 30 on HF with a not great hunk of wire and
>heard nothing beyond the normal ethernet, PC, printer and other office
>furniture. But nothing from the BPL which had a noticeable pattern.

Well, maybe you're right. Lets's do the math.

On Pg 54, Motorola says the power spectral density is about -50dBm/Hz.
If your receiver was set for SSB with about a 3KHz bandwidth, that's:
-50dBm/Hz + 10log(3000Hz) = -50 + 34.7 = -15dBm
You should have been able to hear that when directly connected.

Assuming S9 is 50uv into 50 ohms, that's
P = E^2/R = (50*10^-6)^2 / 50 = 125 uWatts = -9dBm
You should have seen noise at 6dB over S9 on your guess meter
(ignoring the 50/75 ohm mismatch and ham radio band notch filters).

>Shared bandwidth is an issue, but it is also split up by phase, and that
>helps somewhat.

Good point. However, even commodity DSL (1.5Mbits/sec) download is
considered old technology by many broadband users. With 42.5Mbit/sec
aggregate bandwidth, that would minimally supply 28 typical
residential customers at 100% utilization, about double that if
overloaded, and maybe one user doing file sharing. Splitting phases
will increase that by x2 or x3, assuming there's no crosstalk between
phases. That's more than adequate for residential service, assuming
the building owner wants to pay for a T3 line or one third of an OC3

plus service.

I found 3ea X10 lamp modules and one controller. There are more
buried somewhere.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1436. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 16:03:20 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4df0eed3$0$2486$65785112@news.neostrada.pl>
Source record: 4637

"Camelot" <scosmo@tiscalinet.it> napisal w wiadomosci
news:db56c7b5-fbd4-43e2-a9cb-c1f276478ce2@m40g2000vbt.googlegroups.com...
>Hello, I have some doubts about standing waves on antennas that I hope
you could clarify!
As far as I understood, in a generic transmission line where we want
only carry power from a source to a load, we need to cancel the
reflected wave by adapting the load with the impedance of the line.
The result of this operation is S11=S22=0 and VWWR=1 that means no
standing waves.

"VWWR=1 means no doubled voltage.

As far as I understood, in an antenna we want to also avoid standing
waves by having VWWR=1 in order to avoid overloading problem to the
power stage...
>From theory I know that the best radiating condition for an antenna is
when it resonates, that is, when there is a standing wave? is that
correct?

Standing wave is if the electrons reflects from the end.

> How this condition is compatible with a VWWR=1 (no standing
waves) for a good antenna matching? Is there something that I?m not
catching?

You simply do not know Tesla's discovery. Transmitting antennas are the
electrons guns.

In poor antenna the voltage is doubled (at ends) and you have the standing
waves.
In perfect antenna electrons jump off from the ends of a dipole and the
voltage is not doubled.
Of course Tesla's antenna radiate the alternate electric field.
S*

1437. Re: Power Over Ethernet as a radio antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 17:51:47 UTC
From: Ron Overdrive <ronoverdrive@tehfurry.com>
Message-ID: <V5mdndEBioqulWzQnZ2dnUVZ_h6dnZ2d@supernews.com>
Source record: 4638

On 06/07/2011 11:14 AM, Jeff Liebermann wrote:
> On Tue, 07 Jun 2011 16:49:37 +0800, Man-wai Chang
> <toylet.toylet@gmail.com> wrote:
>
>> Another silly idea?
>
> Bad idea. It might work in transmit, but in receive, all you're going
> to hear is the broadband noise coming from whatever data is moving on
> the ethernet pairs. There is some isolation between the CAT5 wire
> pairs, but not enough to prevent noise coupling entirely. Even if you
> borrowed and isolated one of the two pairs used for 802.3af and
> 802.3at for the antenna, you would still experience considerable noise
> pickup.
>
> "When all the bad ideas have been eliminated, whatever remains, no
> matter how improbable, must be a good idea."
> (Me, in about 1980 during a design review)
>
>
>

Doubtful it would work at all. Most CAT5/CAT5e/CAT6 cable is shielded
these days so it wouldn't make a very effective radiator.

1438. Re: Power Over Ethernet as a radio antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 18:41:23 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <r742v6hi2ootesj7q9deq5ism6l56ngp50@4ax.com>
Source record: 4639

On Thu, 09 Jun 2011 13:51:47 -0400, Ron Overdrive
<ronoverdrive@tehfurry.com> wrote:

>Doubtful it would work at all. Most CAT5/CAT5e/CAT6 cable is shielded
>these days so it wouldn't make a very effective radiator.

Not in the Peoples Republic of California. I use quite a bit of CAT5e
and some CAT6 and NONE of it is shielded here. In some countries
(i.e. Switzerland) shield CAT5 is required. The only place I see
shielded CAT5 is in industrial installations (high noise environment),
and in some ham stations (RFI proofing). I've also used gel filled
direct burial CAT5e which comes with a foil shield for the same price.
The connectors are a bit more expensive, but I figure it can't hurt,
especially when it's sharing the conduit with who knows what signal
cables.

Most of the shielded CAT5 systems I've seen do worse with shielding
than without. The problem is that the shields are usually grounded at
both ends, creating the potential for a ground loop. I use SNMP
statistics from the managed ethernet switches to determine if there's
a problem. Isolating one end of the shield usually fixes it.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1439. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 19:37:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e832fee2-543b-4084-8e1d-2491cd28b07f@v11g2000prk.googlegroups.com>
Source record: 4640

On Jun 9, 10:30 am, John Smith <bit_buc...@gmx.com> wrote:
> I just highlight, and then right click the post, of mine, which is in
> error. If using thunderbird (and I think you are), a menu will pop up,

I was previously using Thunderbird but AT&T dropped their news-server
function and I am now using Google Groups which apparently doesn't
allow a posting to be canceled.
--
73, Cecil, w5dxp.com

1440. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 20:04:21 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <isr90g$2j1$1@dont-email.me>
Source record: 4641

On 6/9/2011 2:37 PM, Cecil Moore wrote:
> On Jun 9, 10:30 am, John Smith<bit_buc...@gmx.com> wrote:
>> I just highlight, and then right click the post, of mine, which is in
>> error. If using thunderbird (and I think you are), a menu will pop up,
>
> I was previously using Thunderbird but AT&T dropped their news-server
> function and I am now using Google Groups which apparently doesn't
> allow a posting to be canceled.
> --
> 73, Cecil, w5dxp.com

Give "Eternal September" a look-see.

John - KD5YI

1441. Re: Power Over Ethernet as a radio antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 21:06:47 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <428df428-f2be-4edf-887c-a50dc8523e52@22g2000prx.googlegroups.com>
Source record: 4642

On Jun 9, 11:41 am, Jeff Liebermann <je...@cruzio.com> wrote:
> On Thu, 09 Jun 2011 13:51:47 -0400, Ron Overdrive
>
> <ronoverdr...@tehfurry.com> wrote:
> >Doubtful it would work at all. Most CAT5/CAT5e/CAT6 cable is shielded
> >these days so it wouldn't make a very effective radiator.
>
> Not in the Peoples Republic of California. I use quite a bit of CAT5e
> and some CAT6 and NONE of it is shielded here. In some countries
> (i.e. Switzerland) shield CAT5 is required. The only place I see
> shielded CAT5 is in industrial installations (high noise environment),
> and in some ham stations (RFI proofing). I've also used gel filled
> direct burial CAT5e which comes with a foil shield for the same price.
> The connectors are a bit more expensive, but I figure it can't hurt,
> especially when it's sharing the conduit with who knows what signal
> cables.
>
> Most of the shielded CAT5 systems I've seen do worse with shielding
> than without. The problem is that the shields are usually grounded at
> both ends, creating the potential for a ground loop. I use SNMP
> statistics from the managed ethernet switches to determine if there's
> a problem. Isolating one end of the shield usually fixes it.
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

CAT5 is called UTP. What does the "U" stand for?

1442. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 21:13:17 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1c870931-c24d-49eb-a17e-6a12d0d4bd77@z15g2000prn.googlegroups.com>
Source record: 4643

On Jun 8, 11:06 pm, Camelot <sco...@tiscalinet.it> wrote:
> Hello, I have some doubts about standing waves on antennas that I hope
> you could clarify!
> As far as I understood, in a generic transmission line where we want
> only carry power from a source to a load, we need to cancel the
> reflected wave by adapting the load with the impedance of the line.
> The result of this operation is S11=S22=0 and VWWR=1 that means no
> standing waves.
> As far as I understood, in an antenna we want to also avoid standing
> waves by having VWWR=1 in order to avoid overloading problem to the
> power stage...
> From theory I know that the best radiating condition for an antenna is
> when it resonates, that is, when there is a standing wave… is that
> correct? How this condition is compatible with a VWWR=1 (no standing
> waves) for a good antenna matching? Is there something that I'm not
> catching?
>
> Regards,
>
> Camelot

Something else to think about that may help you understand:

Realize that if you connect a section of transmission line with one
impedance to a section with a different impedance, you will in general
have very different standing waves on the two sections. So, for
example, if you connect the output of a transmitter to a 50 ohm line
that goes for some distance, and that connects to a 250 ohm line
that's an even number of quarter waves long, and at the end of that
line there's a 50 ohm load, assuming the 250 ohm line is lossless, the
50 ohm line will see a 50 ohm load and have no standing wave. But the
250 ohm line has a 5:1 SWR.

Similarly, though the antenna conductors may have a large standing
wave on them, they may reflect a load to their input, their feedpoint,
that allows a low SWR on the feedline connected to that feedpoint.

You might think of the antenna as a "lossy transmission line," where
its loss is (mostly) radiation. You can then see another example
using just transmission lines...this time the 50 ohm line from the
transmitter connects to a piece of 75 ohm line. The 75 ohm line is
some even number of half-waves long, and it happens to have 7dB of
loss -- maybe it's fairly small line, or is several wavelengths long.
(In this case, the loss is as heating in the conductors of the line,
not radiation as in the antenna.) At the far end, it's shorted, so

the SWR at the short is clearly infinite. But at the end connected to the 50 ohm line, because of the loss in the 75 ohm line, the 50 ohm line sees a 50 ohm load, and the SWR on the 50 ohm line is 1:1. Note that along the 75 ohm line, the SWR went from infinity at the shorted far end, to 1.5:1 where the line connects to the 50 ohm line.

Cheers,
Tom

1443. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 21:16:55 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <8a39c79f-823d-4a85-801c-3cfd9c4e8002@p9g2000prh.googlegroups.com>
Source record: 4644

On Jun 9, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 9, 10:30 am, John Smith <bit_buc...@gmx.com> wrote:
>
> > I just highlight, and then right click the post, of mine, which is in
> > error. If using thunderbird (and I think you are), a menu will pop up,
>
> I was previously using Thunderbird but AT&T dropped their news-server
> function and I am now using Google Groups which apparently doesn't
> allow a posting to be canceled.
> --
> 73, Cecil, w5dxp.com

Try the "More options", to the right of your name at the top of the
displayed message. There's a "remove" option in there, that doesn't
appear if you're not the author of the message. I assume that will
delete it, though I don't actually have experience doing that, at
least not recently.

Cheers,
Tom

1444. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-09 22:11:53 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <isrgfkifh1@dont-email.me>
Source record: 4645

On 6/9/2011 4:13 PM, K7ITM wrote:
> On Jun 8, 11:06 pm, Camelot<sco...@tiscalinet.it> wrote:
>> Hello, I have some doubts about standing waves on antennas that I hope
>> you could clarify!
>> As far as I understood, in a generic transmission line where we want
>> only carry power from a source to a load, we need to cancel the
>> reflected wave by adapting the load with the impedance of the line.
>> The result of this operation is S11=S22=0 and VWWR=1 that means no
>> standing waves.
>> As far as I understood, in an antenna we want to also avoid standing
>> waves by having VWWR=1 in order to avoid overloading problem to the
>> power stage...
>> From theory I know that the best radiating condition for an antenna is
>> when it resonates, that is, when there is a standing waveï¿½ is that
>> correct? How this condition is compatible with a VWWR=1 (no standing
>> waves) for a good antenna matching? Is there something that Iï¿½m not
>> catching?
>>
>> Regards,
>>
>> Camelot
>
> Something else to think about that may help you understand:
>
> Realize that if you connect a section of transmission line with one
> impedance to a section with a different impedance, you will in general
> have very different standing waves on the two sections. So, for
> example, if you connect the output of a transmitter to a 50 ohm line
> that goes for some distance, and that connects to a 250 ohm line
> that's an even number of quarter waves long, and at the end of that
> line there's a 50 ohm load, assuming the 250 ohm line is lossless, the
> 50 ohm line will see a 50 ohm load and have no standing wave. But the
> 250 ohm line has a 5:1 SWR.
>
> Similarly, though the antenna conductors may have a large standing
> wave on them, they may reflect a load to their input, their feedpoint,
> that allows a low SWR on the feedline connected to that feedpoint.
>
> You might think of the antenna as a "lossy transmission line," where
> its loss is (mostly) radiation. You can then see another example
> using just transmission lines...this time the 50 ohm line from the
> transmitter connects to a piece of 75 ohm line. The 75 ohm line is
> some even number of half-waves long, and it happens to have 7dB of
> loss -- maybe it's fairly small line, or is several wavelengths long.

> (In this case, the loss is as heating in the conductors of the line,
> not radiation as in the antenna.) At the far end, it's shorted, so
> the SWR at the short is clearly infinite. But at the end connected to
> the 50 ohm line, because of the loss in the 75 ohm line, the 50 ohm
> line sees a 50 ohm load, and the SWR on the 50 ohm line is 1:1. Note
> that along the 75 ohm line, the SWR went from infinity at the shorted
> far end, to 1.5:1 where the line connects to the 50 ohm line.
>
> Cheers,
> Tom

Well done, Tom. Kudos.

73,
John - KD5YI

1445. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 01:12:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2qr2v65cfoum7kh9b7b6pfgvn73s6jbn70@4ax.com>
Source record: 4646

On Wed, 8 Jun 2011 23:06:00 -0700 (PDT), Camelot
<scosmo@tiscalinet.it> wrote:

>From theory I know that the best radiating condition for an antenna is
>when it resonates, that is, when there is a standing waveï¿½ is that
>correct?

No.

73's
Richard Clark, KB7QHC

1446. Re: Power Over Ethernet as a radio antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 01:21:09 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <f2r2v6p0q57j3hlarpvkj9r8lpdifjt91a@4ax.com>
Source record: 4647

On Thu, 9 Jun 2011 14:06:47 -0700 (PDT), "Sal M. Onella"
<sobars@cox.net> wrote:

>CAT5 is called UTP. What does the "U" stand for?

UTP is Unmarked Tangled Pair
STP is Stiff and Tangled Pair

However, UTP and STP are the old designations. ISO/IEC 11801 has
changed the designations:

Old New Screening Pair Shield
UTP U/UTP none none
FTP F/UTP foil none
STP U/FTP none foil
S-FTP SF/UTP foil or braid none
S-STP S/FTP braiding foil

Incidentally CAT7 will be where the 4 pairs are individually shielded.

I can rant on gel filled, UV proof, direct burial, riser cable, plenum
cable, vertical tray cable, flat cable, and other CAT5 mutations if
you want.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1447. EZNEC and near field datas.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 01:37:33 UTC
From: ve2pid <ve2pid@videotron.ca>
Message-ID: <102175af-45f8-4556-bf03-296161ae8b9f@d1g2000yqe.googlegroups.com>
Source record: 4648

Hi to all

In EZNEC, when we want to get the near field datas, there is an option to enter the input power. So for a 2 kW PEP power, in order to obtain the V/m or A/m at a certain distance, should we directly enter 2000 W in the input power window, or should we transform it to the effective power 'RMS' value of 2000/sqrt(2) = 1414,2 W, and then enter 1414,2 W instead?

Thanks for your help

de Pierre VE2PID

1448. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 01:54:07 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isrtg1lcq2@dont-email.me>
Source record: 4649

On 6/9/2011 12:37 PM, Cecil Moore wrote:
> On Jun 9, 10:30 am, John Smith<bit_buc...@gmx.com> wrote:
>> I just highlight, and then right click the post, of mine, which is in
>> error. If using thunderbird (and I think you are), a menu will pop up,
>
> I was previously using Thunderbird but AT&T dropped their news-server
> function and I am now using Google Groups which apparently doesn't
> allow a posting to be canceled.
> --
> 73, Cecil, w5dxp.com

You can get a free email account here:

http://gmx.com/

You can then use that email acount to get a free post/read account here:

http://eternal-september.org/RegisterNewsAccount.php

You will be back in business with tbird and an email that people can
spam from here to high heaven, without worry ...

Just in case you are interested ... good luck, either way.

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1449. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 03:46:49 UTC
From: AJL <1245nomail@none.com>
Message-ID: <c343v698i35vjjbjd3gmurukb2g8e8ffq1@4ax.com>
Source record: 4650

On Thu, 09 Jun 2011 18:54:07 -0700, John Smith <bit_bucket@gmx.com>
wrote:

>On 6/9/2011 12:37 PM, Cecil Moore wrote:
>> On Jun 9, 10:30 am, John Smith<bit_buc...@gmx.com> wrote:
>>> I just highlight, and then right click the post, of mine, which is in
>>> error. If using thunderbird (and I think you are), a menu will pop up,
>>
>> I was previously using Thunderbird but AT&T dropped their news-server
>> function and I am now using Google Groups which apparently doesn't
>> allow a posting to be canceled.
>> --
>> 73, Cecil, w5dxp.com
>
>You can get a free email account here:
>
>http://gmx.com/
>
>You can then use that email acount to get a free post/read account here:
>
>http://eternal-september.org/RegisterNewsAccount.php
>
>You will be back in business with tbird and an email that people can
>spam from here to high heaven, without worry ...
>
>Just in case you are interested ... good luck, either way.

If you don't want want to mess around registering for the news server
or getting a throw away address, you can use the free nntp.aioe.org.
Just plug it into TB or any newsreader and away you go. There are more
restrictions than eternal-september but if you have a life other than
Usenet they won't bother you...

(http://www.aioe.org/index.php?home)

1450. TAMIL ACTRESS HOT PHOTOS & VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 05:25:20 UTC
From: SRAVANTHI LOVE <sravanthi.sravya24@gmail.com>
Message-ID: <d3e67046-8a90-4130-9ced-6281115c895a@d26g2000prn.googlegroups.com>
Source record: 4501

FOR GOOD STUDY MATERIAL
http://studymaterialforu.blogspot.com

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

FOR HOT PHOTO&VIDEOS
KATRINA KAIF IN BEAUTIFUL RED DRESS
http://southactresstou.blogspot.com/2011/05/katrina-kaif_22.html
GOOD LOOKING DEEPIKA PADUKONE
http://southactresstou.blogspot.com/2011/05/deepika-padukone_22.html
AISHWARYA RAI UNBELIVABLE PHOTO
http://southactresstou.blogspot.com/2011/05/aishwarya-rai.html
SEXY TAPSEE IN VEERA
http://southactresstou.blogspot.com/2011/05/tapsee.html
KAJAL IN BEAUTIFUL BLACK SAREE
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html

1451. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 06:38:29 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <isse56$32k$2@dont-email.me>
Source record: 4502

On 6/9/2011 8:46 PM, AJL wrote:

> ...
> If you don't want want to mess around registering for the news server
> or getting a throw away address, you can use the free nntp.aioe.org.
> Just plug it into TB or any newsreader and away you go. There are more
> restrictions than eternal-september but if you have a life other than
> Usenet they won't bother you...
>
> (http://www.aioe.org/index.php?home)

True, the thing with aioe.org is that you don't need to create a
password and no need for a real email addy, even of the throwaway kind ...

This is great in an aid of making the world wide wiretap more difficult
to track/trace you, couple that up with a phony isp number, change the
volume id only hard drive now and then, and use mac makeup to switch the
mac no. on your nic now and then and it becomes even more difficult, use
another identity to make it appear as if you are really someone else and
you start getting a bit of security ...

Really, no one should be using their real isp for usenet anyway!
Everyone should be pretending like it's 1984, which it is!

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1452. Jordan entered the NBA, he was considered a
 </p>http://www.nike-airmax-seller.com

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 07:41:20 UTC
From: "www.jersey-2009.com" <brandtrade03@yahoo.com>
Message-ID: <acf3ea2e-38a5-4c0c-8066-52a0ec577353@v8g2000yqb.googlegroups.com>
Source record: 4503
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna
Body handling: HTML body converted to readable text

nown as the Air Max III until 2000, when it was reissued taking its name from the year of its launch year. The original colourway of white/ black/cool grey was chosen to exaggerate the Air Force Onethickness of the sole air unit. The Air Max 90 is especially popular in Europe. In a report it was seen that reebok outsold nike.

cushion.nonetheless,the number of design details a bit unusual that the other point:this series,Nike Air Maxshoes isn’t a

In fact, Jordan shoes were initially considered a huge bet. In 1984, the young Jordan entered the NBA, he was considered a http://www.nike-airmax-seller.com

1453. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 13:29:03 UTC
From: Camelot <scosmo@tiscalinet.it>
Message-ID: <f5d9b2a8-fbf4-412d-888f-49ad6a837a41@gh5g2000vbb.googlegroups.com>
Source record: 4504

Great! Thank you for your useful comments!

Camelot

1454. Re: Standing waves on antenna, doubts!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-10 23:53:21 UTC
From: nm5k@wt.net
Message-ID: <1bf03536-4ee3-4602-b736-2fc1a24bd0c8@glegroupsg2000goo.googlegroups.com>
Source record: 4505

On Thursday, June 9, 2011 2:37:24 PM UTC-5, Cecil Moore wrote:
> On Jun 9, 10:30 am, John Smith <bit_b...@gmx.com> wrote:
> > I just highlight, and then right click the post, of mine, which is in
> > error. If using thunderbird (and I think you are), a menu will pop up,
>
> I was previously using Thunderbird but AT&T dropped their news-server
> function and I am now using Google Groups which apparently doesn't
> allow a posting to be canceled.
> --
> 73, Cecil, w5dxp.com

You can cancel a post before posting, and remove a post
that has been posted, using google groups.
And there are two versions of google groups.. The old
and the new.. They both do both, but slightly different
layout.

1455. Re: Ground loop as a big AM/FM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-11 01:52:37 UTC
From: tom <news4792@taring.org>
Message-ID: <4df2ca64$0$79796$8046368a@newsreader.iphouse.net>
Source record: 4506

On 6/9/2011 10:38 AM, Jeff Liebermann wrote:
> On Wed, 08 Jun 2011 21:48:45 -0500, tom<news4792@taring.org> wrote:
>
>> On 6/7/2011 11:46 PM, Jeff Liebermann wrote:
>>>
>>> That would be the MU (Multi-Unit) system.
>>> <http://www.netlinkweb.com/solutions/motorola/BPL-applications/BPL-MU.asp>
>>> I have no experience with that one. Did you look at it on a spectrum
>>> analyzer? Motorola is one of the few BPL vendors that supplies
>>> devices that intentionally filter out "sensitive" bands, such as ham
>>> radio. My understanding (possibly wrong) is that since the entire
>>> building shares the same wiring, the bandwidth per user is limited
>>> during peak times.
>>>
>
>> I looked at it band by band for the US amateur bands. I believe I also
>> check out of band here and there, but it was 5 or 6 years ago. And that
>> was straight from the transmitter level with a 1 meter cable and a 75 to
>> 50 ohm mismatch.
>>
>> I also swept our area 30 to 30 on HF with a not great hunk of wire and
>> heard nothing beyond the normal ethernet, PC, printer and other office
>> furniture. But nothing from the BPL which had a noticeable pattern.
>
> Well, maybe you're right. Lets's do the math.
>
> On Pg 54, Motorola says the power spectral density is about -50dBm/Hz.
> If your receiver was set for SSB with about a 3KHz bandwidth, that's:
> -50dBm/Hz + 10log(3000Hz) = -50 + 34.7 = -15dBm
> You should have been able to hear that when directly connected.
>
> Assuming S9 is 50uv into 50 ohms, that's
> P = E^2/R = (50*10^-6)^2 / 50 = 125 uWatts = -9dBm
> You should have seen noise at 6dB over S9 on your guess meter
> (ignoring the 50/75 ohm mismatch and ham radio band notch filters).
>
>> Shared bandwidth is an issue, but it is also split up by phase, and that
>> helps somewhat.
>
> Good point. However, even commodity DSL (1.5Mbits/sec) download is
> considered old technology by many broadband users. With 42.5Mbit/sec
> aggregate bandwidth, that would minimally supply 28 typical
> residential customers at 100% utilization, about double that if
> overloaded, and maybe one user doing file sharing. Splitting phases

> will increase that by x2 or x3, assuming there's no crosstalk between
> phases. That's more than adequate for residential service, assuming
> the building owner wants to pay for a T3 line or one third of an OC3
> plus service.
>
> I found 3ea X10 lamp modules and one controller. There are more
> buried somewhere.
>

One thing most people can't appreciate the advantage of is having your
own email server. I helps a lot when you have a low bit rate connection.

I don't need lamp modules, they are less satisfactory.

Which controller do you have?

And maybe we should move this offline.

tom
K0TAR

1456. Re: EZNEC and near field datas.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-11 12:03:59 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4df3599a$0$13982$4fafbaef@reader2.news.tin.it>
Source record: 4507

> Hi to all
>
> In EZNEC, when we want to get the near field datas, there is an option
> to enter the input power. So for a 2 kW PEP power, in order to obtain
> the V/m or A/m at a certain distance, should we directly enter 2000 W
> in the input power window, or should we transform it to the effective
> power 'RMS' value of 2000/sqrt(2) = 1414,2 W, and then enter 1414,2 W
> instead?
>
> Thanks for your help
>
> de Pierre VE2PID

I am not familiar with EZNEC, but I would say that you must enter 2000W, simply because the RMS concept cannot be applied to power (only "average power" exists, not "RMS power").

RMS can be used for voltage or current, but not power.

So, "2kW PEP" means that the "average power around the instant in which power is maximum" is 2kW.

Probably EZ-NEC returns you the RMS V/m or RMS A/m values around the instant in which V/m or A/m is maximum.

73

Tony I0JX
Rome, Italy

1457. Clarification requested for resonant feed line verses non-resonant feed line

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-11 12:55:11 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <4793a1ff-dfe1-47a1-bdf9-3797ed4f212a@h7g2000yqa.googlegroups.com>
Source record: 4508

In the ARRL Antenna Handbook it discusses feeding the Lazy H antenna. The handbook states; "Matching stubs are recommended in cases where a non-resonant line is to be used". Is the handbook referring to coax verses ladder line, is it referring to a resonant length of ladder line verses a non resonant length of ladder line, it is referring to ladder line with an antenna tuner at the transmitter verses ladder line without an antenna tuner? In any case I'm not sure what they are specifically referring to. Clarification requested please.

Thank you,

Michael Rawls
KS4HY

1458. Re: Clarification requested for resonant feed line verses non-resonant feed line

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-11 13:37:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <23d6e5dc-8ae2-413a-b66a-c53bd4a7a940@gv8g2000vbb.googlegroups.com>
Source record: 4509

On Jun 11, 7:55 am, Michael <goo...@shadowstorm.com> wrote:
> Clarification requested please.

They are probably worried about losses if there is a high SWR on the
coax feedline. I don't see any reason why the Lazy-H can't be fed with
ladder-line and Z0-matched to 50 ohms at the tuner which will cause a
near conjugate match at the antenna feedpoint and throughout the rest
of the system using low-loss feedline.
--
73, Cecil, w5dxp.com

1459. Re: Clarification requested for resonant feed line verses non-resonant feed line

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-11 13:54:15 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4df37372$0$2686$4fafbaef@reader1.news.tin.it>
Source record: 4510

"Michael" <google@shadowstorm.com> ha scritto nel messaggio
news:4793a1ff-dfe1-47a1-bdf9-3797ed4f212a@h7g2000yqa.googlegroups.com...
> In the ARRL Antenna Handbook it discusses feeding the Lazy H
> antenna. The handbook states; "Matching stubs are recommended in
> cases where a non-resonant line is to be used". Is the handbook
> referring to coax verses ladder line, is it referring to a resonant
> length of ladder line verses a non resonant length of ladder line, it
> is referring to ladder line with an antenna tuner at the transmitter
> verses ladder line without an antenna tuner? In any case I'm not sure
> what they are specifically referring to. Clarification requested
> please.
>
> Thank you,
>
> Michael Rawls
> KS4HY

A possible explanation is the following one.

If you use an appropriate matching stub at the antenna, the antenna impedance can be made equal to the ladder line characteristic impedance. In such (matched) condition, the impedance seen by the transmitter is independent of the ladder line length. You will most likely need a tuner at the transmitter to adapt that impedance to the 50-ohm transmitter impedance.

On the contrary, not using any stub, the antenna impedance will most likely be different from the ladder line characteristic impedance. In such (unmatched) condition the impedance seen by the transmitter varies with the ladder line length. Trimming that length, you may obtain an impedance close enough to 50 ohm, so avoiding the need for a tuner (although a balun will stiil be needed).

73

Tony I0JX
Rome, Italy

1460. Re: Clarification requested for resonant feed line verses non-resonant feed line

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-11 17:01:17 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <6201bbe0-9ca7-4e40-ada6-49470af81b9a@l14g2000pro.googlegroups.com>
Source record: 4511

On Jun 11, 5:55 am, Michael <goo...@shadowstorm.com> wrote:
> In the ARRL Antenna Handbook it discusses feeding the Lazy H
> antenna. The handbook states; "Matching stubs are recommended in
> cases where a non-resonant line is to be used". Is the handbook
> referring to coax verses ladder line, is it referring to a resonant
> length of ladder line verses a non resonant length of ladder line, it
> is referring to ladder line with an antenna tuner at the transmitter
> verses ladder line without an antenna tuner? In any case I'm not sure
> what they are specifically referring to. Clarification requested
> please.
>
> Thank you,
>
> Michael Rawls
> KS4HY

Seems like it would be helpful if the handbook gave you an accurate definition of what they mean by "stub" and "resonant" versus "non-resonant" line. To me, a "stub" means a length of transmission line attached to a feed system (perhaps at the antenna feedpoint, but perhaps instead attached to the through-line feeding the antenna at some point away from the antenna feed point), which is open or shorted at the free end. (It's also possible to have a stub that's tuned by putting a [variable] capacitance across the free end--or an inductance.) That is, a "stub" is NOT a piece of transmission line in series with the feed line (which makes it a part of the feed line). If you have a piece of transmission line feeding the antenna whose job it also is to transform an impedance, it _might_ be called "resonant," though I would much prefer the term "series matching section" of line. That's because, in general, the length might not be an integer number of electrical quarter waves. The series section might be used to tune out reactance as well as transform the resistive part of the impedance.

So my suspicion is that they are using "resonant line" to mean a "series matching section," where the series matching section is (probably) an odd number of quarter waves long, to help match between two different resistive impedances. The ideal impedance of that series section would be the square root of the product of the two impedances (resistances) you want to match between.

I use a program called "winSMITH" which I love because it lets me very quickly see what pretty much any arbitrary "ladder" arrangement of line sections (series and stub)--as well as lumped reactances--will do

to transform any arbitrary impedance. The graphical representation gives me insight into what's going on, and how I can adjust things to get the best match. Though I especially like some of the features of this program, there are other Smith chart programs that will give you similar insights. Several of these programs are free. It takes a bit of playing with them to understand what's going on, but I think it's well worth the time because of the deeper understanding you'll get from them. "YMMV" as they say; if graphs don't do anything for you, a Smith chart probably won't either.

Cheers,
Tom

1461. AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 07:01:39 UTC
From: Ian Wade G3NRW <g3nrw@yahoo.co.uk>
Message-ID: <oGILP+ETRG9NFwjl@ntlworld.com>
Source record: 4512
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

I have added a further update to the AIM4170 Presentation, showing a TDR scan on an open-wire feeder.

Go to: http://homepage.ntlworld.com/wadei/aim4170.htm

then click on the link "AIM4170 PowerPoint Presentation".

New slides 72, 73 and 74 show clearly that although Zo = the calculated free space value at the antenna feedpoint, it is otherwise considerably affected by the feeder’s proximity to ground and other objects.

Zo actually falls as the feeder descends from the shack window to the garage, remains more-or-less constant as it passes over the garage roof, and only begins to increase again as it traverses the hedge and passes through the tree. Note also that the impedance decreases slightly where the feeder narrows at the antenna feedpoint.

Yet another example of the incredible versatility of the AIM4170.

--
73
Ian, G3NRW

The AIM4170 Antenna Analyzer:
http://homepage.ntlworld.com/wadei/aim4170.htm

1462. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 10:36:29 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <cfdd76c9-6c4b-4cd5-9a5d-bf9995f1960e@i4g2000yqg.googlegroups.com>
Source record: 4513

K8JS was correct about the factory balun in the Dentron MT-3000a not working correctly on 10 meters (see below). I by-passed the built in balun by using a 3 foot jumper out one of the other antenna coax jacks and then connecting the 450 ohm ladder line to the external 1:1 balun. The Lazy H antenna lit up! Now it is performing like I was expecting, and the missing gain is definitely there. I initially tried an external 4:1 balun, but since I had previously trimmed the 450 ohm ladder line to get a better match to the tuner I wound up getting a better match with an external 1:1 balun. Now I need need to replace the internal 4:1 balun in the Dentron MT-3000a, so I can get my open wire antenna position back.

I have to retract my previous statement when I said the Lazy H antenna sucks. They rock. It is the built in factory 4:1 balun in the Dentron MT-3000a that sucks on 10 meters. With the new balun the Lazy H antenna is performing beautifully. I already built a second Lazy H, and I have it pointing in a different direction. The side rejection on those antennas is pretty impressive, and both Lazy H antennas are now blowing away the rotatable dipole in their favored direction.

Thank for all the help,

Michael Rawls
KS4HY

On Jun 7, 8:53 am, Michael <goo...@shadowstorm.com> wrote:
> On Jun 6, 9:39 pm, Michael <goo...@shadowstorm.com> wrote:
>
>
>
> > Update on the 10 meterLazyH...
>
> > I did a little reading on ladder line at the web page below;
>
> >http://www.athensarc.org/ladder.asp
>
> > and then in the ARRL handbook.
>
> > With the knowledge gained form the two sources I made the following
> > changes;
>
> > I changed the length of the 450 ohm ladder line feeding theantenna
> > to make sure it was not a multiple of a 1/2 wavelength at 10 meters,
> > and theantennatuner was able to tune theLazyHmore easily. I also

> > suspect there may be a problem with the balun in theDentronMT-3000a
> > tuner. When I hook up the Drake MN-75 tuner with the internal 4:1
> > balun I hand wound myself I am seeing gain from theLazyHantennain
> > it's preferred direction compared to the dipole, but when I switch to
> > theDentronMT-3000a I am not seeing gain when I compare the dipole to
> > theLazyH. I think I am going to remove the factory balun from the
> >DentronMT-3000a and hand wind a new 4:1 balun for it.
>
> > Michael Rawls
> > KS4HY
>
> I did some searching on the Internet concerning the use of theDentron
> MT-3000a tuner and using the balun for 450 ohm ladder line on10
> meters, and I found the following post from K8JS on a eham.net review
> of theDentronMT-3000a tuner..
>
> Below is K8JS's post on eham.net...
>
> ====================================
> K8JS   Rating: 3/5   Feb 22, 2004 00:59   Send this review to a friend
> Basically Is OK, but not the best Tuner Out There   Time owned: more
> than 12 months
>
> ...<snip>...
>
> I also ran balanced feedline antennas at that time, and discovered
> that the built-in balun was badly UN-balanced at it's "balanced" port
> for 10 thru 20 meters.
> To help remedy that problem I had to replace it with a physically
> larger, and much superior "Super Balun" from Palomar that barely
> physically fit within the tuner's chassis.
> So - with correcting the coil's grounded end making a better contact
> to the chassis, replacing the unit's inferior balun, and gingerly
> operating those flakey rectangular switched, I was able to continue to
> use that otherwise very nice tuner for several more years. ---John,
> K8JS
>
> ==================================
>
> Well, looks like it is time to replace the stockDentronMT-3000a 4:1
> balun with a home made one.
>
> Michael Rawls
> KS4HY

1463. Re: The Lazy H does not seem to exhibit any gain over a dipole in the real world

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 18:25:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aj0av69goi89u74hudjp8g5lq73jga8m1b@4ax.com>
Source record: 4514

On Sun, 12 Jun 2011 03:36:29 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>I have to retract my previous statement when I said the Lazy H antenna
>sucks. They rock.

Hi Michael,

That sounds good.

>It is the built in factory 4:1 balun in the
>Dentron MT-3000a that sucks on 10 meters.

It probably sucks equally on all bands.

>With the new balun the Lazy
>H antenna is performing beautifully.

It would serve us all, and specifically you, if you would describe
EXACTLY what the difference is between the factory built BalUn and
your own new BalUn.

First, can you distinguish between Voltage BalUns and Current BalUns?
They go by other names such as Ruthroff and Guanella. Can you
enumerate the characteristics beyond the transformation ratio?

Do you understand the concept of Common Mode current, and how (not how
much) it impacts performance?

73's
Richard Clark, KB7QHC

1464. Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 19:05:50 UTC
From: walt <walt@w2du.com>
Message-ID: <9a2f86b0-e043-422c-bb29-666f57cc2dbd@w10g2000yqh.googlegroups.com>
Source record: 4515

I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to transmission lines.This is not a trick question. This is a straight-forward question for which I 'm dead serious. The answer will involve a resulting reflection coefficient.

Assume a 50-ohm line terminated in a purely resistive 150-ohm load, yielding a 3:1 mismatch with a voltage reflection coefficient Vρ equal to 0.5 at 0°. We want to place a stub on the line at the position relating to the unit-resistance circle on the Smith Chart. For a 3:1 mismatch this position is exactly 30° rearward from the load, and has a voltage reflection coefficient Vρ equal to 0.5 at -60°. The normalized line resistance at this point is 1.1547 chart ohms, or 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735 ohms.

Placing a short-circuited stub having an inductive reactance of +j57.735 ohms on the line cancels the line reactance, establishing a new line impedance at this matching point of 50 + j0. However, a lot more is involved than just canceling the reactances to establish the impedance match. To begin, the stub generates a new, secondary, canceling reflection that cancels the primary reflected wave generated by the mismatched line termination.

Recall the voltage reflection coefficient Vρ of the line impedance prior to placing the stub--Vρ = 0.5 at -60°. The corresponding current reflection coefficient Iρ = 0.5 at +120°

We now look at the voltage reflection coefficient of the stub, which is Vρ = 0.5 at +60°, and the corresponding current reflection coefficient of the stub which is Iρ = 0.5 at -120°.

Observe that resultant angle of the voltage coefficients is 0° and resultant angle of the current coefficients is 180°, all with the same magnitude--0.5. It is well known that when these respective coefficients exist at this point, the matching point, this condition establishes a virtual open circuit to rearward traveling waves at this point, prohibiting any further rearward travel of the reflected waves, thus reversing their direction toward the load.

Consequently, the result is total re-reflection of the two sets of reflected waves at the match point.

Now the question--what is the resultant voltage coefficient of reflection at the match point? My position is that ρ = 1.0, which indicates total reflection. However, I've been criticized on this value, my critics saying that because this virtual open circuit was

established by wave interference, ρ cannot equal 1.0. They assert
that ρ = 1.0 can be obtained only through a physical open circuit.

So I now ask you, am I correct in saying that the reflection
coefficient in this situation is 1.0? I'm holding my breath for your
answers.

Walt

1465. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 19:10:13 UTC
From: walt <walt@w2du.com>
Message-ID: <e556d24a-0aa3-4f87-a02d-e8bb2501cc0f@i4g2000yqg.googlegroups.com>
Source record: 4516

On Jun 12, 3:05 pm, walt <w...@w2du.com> wrote:
> I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> transmission lines.This is not a trick question. This is a straight-
> forward question for which I 'm dead serious. The answer will involve
> a resulting reflection coefficient.
>
> Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> yielding a 3:1 mismatch with a voltage reflection coefficient Vñ equal
> to 0.5 at 0°. We want to place a stub on the line at the position
> relating to the unit-resistance circle on the Smith Chart. For a 3:1
> mismatch this position is exactly 30° rearward from the load, and has
> a voltage reflection coefficient Vñ equal to 0.5 at -60°. The
> normalized line resistance at this point is 1.1547 chart ohms, or
> 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> ohms.
>
> Placing a short-circuited stub having an inductive reactance of
> +j57.735 ohms on the line cancels the line reactance, establishing a
> new line impedance at this matching point of 50 + j0. However, a lot
> more is involved than just canceling the reactances to establish the
> impedance match. To begin, the stub generates a new, secondary,
> canceling reflection that cancels the primary reflected wave generated
> by the mismatched line termination.
>
> Recall the voltage reflection coefficient Vñ of the line impedance
> prior to placing the stub--Vñ = 0.5 at -60°. The corresponding current
> reflection coefficient Iñ = 0.5 at +120°
>
> We now look at the voltage reflection coefficient of the stub, which
> is Vñ = 0.5 at +60°, and the corresponding current reflection
> coefficient of the stub which is Iñ = 0.5 at -120°.
>
> Observe that resultant angle of the voltage coefficients is 0° and
> resultant angle of the current coefficients is 180°, all with the same
> magnitude--0.5. It is well known that when these respective
> coefficients exist at this point, the matching point, this condition
> establishes a virtual open circuit to rearward traveling waves at this
> point, prohibiting any further rearward travel of the reflected waves,
> thus reversing their direction toward the load.
>
> Consequently, the result is total re-reflection of the two sets of
> reflected waves at the match point.
>
> Now the question--what is the resultant voltage coefficient of

> reflection at the match point? My position is that ñ = 1.0, which
> indicates total reflection. However, I've been criticized on this
> value, my critics saying that because this virtual open circuit was
> established by wave interference, ñ cannot equal 1.0. They assert
> that ñ = 1.0 can be obtained only through a physical open circuit.
>
> So I now ask you, am I correct in saying that the reflection
> coefficient in this situation is 1.0? I'm holding my breath for your
> answers.
>
> Walt

Unfortunately, the symbol for rho came thru as 'n' with a diacritical
mark over it. That incorrect character should be replace with the
Greek symbol rho, which this venue cannot print.

Walt

1466. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 19:12:46 UTC
From: walt <walt@w2du.com>
Message-ID: <d357b234-78e4-4bac-a4fd-5b3f2adf32e0@d1g2000yqm.googlegroups.com>
Source record: 4517

On Jun 12, 3:05 pm, walt <w...@w2du.com> wrote:
> I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> transmission lines.This is not a trick question. This is a straight-
> forward question for which I 'm dead serious. The answer will involve
> a resulting reflection coefficient.
>
> Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> yielding a 3:1 mismatch with a voltage reflection coefficient Vñ equal
> to 0.5 at 0°. We want to place a stub on the line at the position
> relating to the unit-resistance circle on the Smith Chart. For a 3:1
> mismatch this position is exactly 30° rearward from the load, and has
> a voltage reflection coefficient Vñ equal to 0.5 at -60°. The
> normalized line resistance at this point is 1.1547 chart ohms, or
> 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> ohms.
>
> Placing a short-circuited stub having an inductive reactance of
> +j57.735 ohms on the line cancels the line reactance, establishing a
> new line impedance at this matching point of 50 + j0. However, a lot
> more is involved than just canceling the reactances to establish the
> impedance match. To begin, the stub generates a new, secondary,
> canceling reflection that cancels the primary reflected wave generated
> by the mismatched line termination.
>
> Recall the voltage reflection coefficient Vñ of the line impedance
> prior to placing the stub--Vñ = 0.5 at -60°. The corresponding current
> reflection coefficient Iñ = 0.5 at +120°
>
> We now look at the voltage reflection coefficient of the stub, which
> is Vñ = 0.5 at +60°, and the corresponding current reflection
> coefficient of the stub which is Iñ = 0.5 at -120°.
>
> Observe that resultant angle of the voltage coefficients is 0° and
> resultant angle of the current coefficients is 180°, all with the same
> magnitude--0.5. It is well known that when these respective
> coefficients exist at this point, the matching point, this condition
> establishes a virtual open circuit to rearward traveling waves at this
> point, prohibiting any further rearward travel of the reflected waves,
> thus reversing their direction toward the load.
>
> Consequently, the result is total re-reflection of the two sets of
> reflected waves at the match point.
>
> Now the question--what is the resultant voltage coefficient of

> reflection at the match point? My position is that ñ = 1.0, which
> indicates total reflection. However, I've been criticized on this
> value, my critics saying that because this virtual open circuit was
> established by wave interference, ñ cannot equal 1.0. They assert
> that ñ = 1.0 can be obtained only through a physical open circuit.
>
> So I now ask you, am I correct in saying that the reflection
> coefficient in this situation is 1.0? I'm holding my breath for your
> answers.
>
> Walt

Forgot to say, the stub is placed in series with the line, not in
shunt.

Walt

1467. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 19:42:13 UTC
From: walt <walt@w2du.com>
Message-ID: <567a0bc8-d14b-4100-b611-617cfbd31fe9@n11g2000yqf.googlegroups.com>
Source record: 4518

On Jun 12, 3:12 pm, walt <w...@w2du.com> wrote:
> On Jun 12, 3:05 pm, walt <w...@w2du.com> wrote:
>
>
>
>
>
>
>
>
>
>
> > I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> > transmission lines.This is not a trick question. This is a straight-
> > forward question for which I 'm dead serious. The answer will involve
> > a resulting reflection coefficient.
>
> > Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> > yielding a 3:1 mismatch with a voltage reflection coefficient Vñ equal
> > to 0.5 at 0°. We want to place a stub on the line at the position
> > relating to the unit-resistance circle on the Smith Chart. For a 3:1
> > mismatch this position is exactly 30° rearward from the load, and has
> > a voltage reflection coefficient Vñ equal to 0.5 at -60°. The
> > normalized line resistance at this point is 1.1547 chart ohms, or
> > 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> > ohms.
>
> > Placing a short-circuited stub having an inductive reactance of
> > +j57.735 ohms on the line cancels the line reactance, establishing a
> > new line impedance at this matching point of 50 + j0. However, a lot
> > more is involved than just canceling the reactances to establish the
> > impedance match. To begin, the stub generates a new, secondary,
> > canceling reflection that cancels the primary reflected wave generated
> > by the mismatched line termination.
>
> > Recall the voltage reflection coefficient Vñ of the line impedance
> > prior to placing the stub--Vñ = 0.5 at -60°. The corresponding current
> > reflection coefficient Iñ = 0.5 at +120°
>
> > We now look at the voltage reflection coefficient of the stub, which
> > is Vñ = 0.5 at +60°, and the corresponding current reflection
> > coefficient of the stub which is Iñ = 0.5 at -120°.
>
> > Observe that resultant angle of the voltage coefficients is 0° and
> > resultant angle of the current coefficients is 180°, all with the same

> > magnitude--0.5. It is well known that when these respective
> > coefficients exist at this point, the matching point, this condition
> > establishes a virtual open circuit to rearward traveling waves at this
> > point, prohibiting any further rearward travel of the reflected waves,
> > thus reversing their direction toward the load.
>
> > Consequently, the result is total re-reflection of the two sets of
> > reflected waves at the match point.
>
> > Now the question--what is the resultant voltage coefficient of
> > reflection at the match point? My position is that ñ = 1.0, which
> > indicates total reflection. However, I've been criticized on this
> > value, my critics saying that because this virtual open circuit was
> > established by wave interference, ñ cannot equal 1.0. They assert
> > that ñ = 1.0 can be obtained only through a physical open circuit.
>
> > So I now ask you, am I correct in saying that the reflection
> > coefficient in this situation is 1.0? I'm holding my breath for your
> > answers.
>
> > Walt
>
> Forgot to say, the stub is placed in series with the line, not in
> shunt.
>
> Walt

Sorry, I mean't K7ITM, not W7ITM.

Walt

1468. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 21:28:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ikbav617akq2an0fs9rs7r09t1ru3fhab6@4ax.com>
Source record: 4519

On Sun, 12 Jun 2011 12:12:46 -0700 (PDT), walt <walt@w2du.com> wrote:

>On Jun 12, 3:05ï¿½pm, walt <w...@w2du.com> wrote:
>> I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
>> transmission lines.

Hi Walt,

What I need to see is a labeled schematic.

73's
Richard Clark, KB7QHC

1469. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-12 21:46:06 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7e2046b0-7fbb-4d00-b65f-ba91fd3af896@32g2000vbe.googlegroups.com>
Source record: 4520

On Jun 12, 2:05 pm, walt <w...@w2du.com> wrote:
> So I now ask you, am I correct in saying that the reflection
> coefficient in this situation is 1.0? I'm holding my breath for your
> answers.

Walt, some of us have previously discussed the difference between a one-port s11 (reflection coefficient) and a two-port s11 and I think that difference is what you are seeing. The one-port s11 (rho) is a virtual reflection coefficient based on the available system information. In that case, rho is 1.0. However, if we use the two-port parameters, I believe s11 (rho) will be 0.5. The matching stub complicates the analysis so maybe we can reduce the complexity using a slightly different example about which you can ask the same question and the answer will be a little easier.

--50 ohm--+--1/2WL 150 ohm--50 ohm load

It's essentially the same problem without the complexity of the stub. There is a 50 ohm Z0-match at point '+'. The one-port s11 (rho) looking into the Z0-match point from the source side is 0.0 because there are no reflections. The one-port analysis is blind to any interference that might be recognized if we were using the two-port analysis.

The one-port s11 (rho) looking back into the Z0-match from the load is 1.0, same as your virtual open/short. The one-port analysis used for your virtual open/short concept is unaware of the interference that is visible in a two-port analysis. A one-port analysis cannot tell the difference between an actual reflection and a redistribution of energy associated with superposition interference.

However, the two-port s11 (rho) looking into the Z0-match from the source side is 0.5, i.e. (150-50)/(150+50). Interference is not invisible in the two-port analysis. In fact, when the voltage reflected toward the source is zero, there is total destructive interference in the direction of the source.

b1 = s11*a1 + s12*a2 = 0

where all math is phasor math. The two terms cancel destructively to zero. The ExH energy components in those two terms are redistributed back toward the load.

In a two-port analysis, the reflection coefficient looking back into the Z0-match from the load is called s22. The matching equation is:

b2 = s21*a1 + s22*a2

All of the destructive interference energy involved toward the source is redistributed back toward the load as constructive interference. But such is invisible in a one-port analysis such as your virtual open/short circuit.

There is nothing wrong with your one-port virtual open/short circuit analysis. There is also nothing wrong with the more in-depth two-port analysis. It is simply that more information is available during the two-port analysis.

Over on another newsgroup, some reported using a one-port analysis almost all of the time. Tell your critics that you are using a one-port analysis where the interference information is simply not available during the analysis.

What is the one-port reflection coefficient looking into a Z0-match from the source side? 0.0
What is the one-port reflection coefficient looking into a Z0-match from the load side? plus or minus 1.0

That is what you are doing with your virtual open/short and there's nothing wrong with a one-port analysis.
--
73, Cecil, w5dxp.com

1470. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 01:16:39 UTC
From: walt <walt@w2du.com>
Message-ID: <b1b8057f-c64d-48ce-b66c-19d5a6c3018f@y30g2000yqb.googlegroups.com>
Source record: 4521

On Jun 12, 5:46 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 2:05 pm, walt <w...@w2du.com> wrote:
>
> > So I now ask you, am I correct in saying that the reflection
> > coefficient in this situation is 1.0? I'm holding my breath for your
> > answers.
>
> Walt, some of us have previously discussed the difference between a
> one-port s11 (reflection coefficient) and a two-port s11 and I think
> that difference is what you are seeing. The one-port s11 (rho) is a
> virtual reflection coefficient based on the available system
> information. In that case, rho is 1.0. However, if we use the two-port
> parameters, I believe s11 (rho) will be 0.5. The matching stub
> complicates the analysis so maybe we can reduce the complexity using a
> slightly different example about which you can ask the same question
> and the answer will be a little easier.
>
> --50 ohm--+--1/2WL 150 ohm--50 ohm load
>
> It's essentially the same problem without the complexity of the stub.
> There is a 50 ohm Z0-match at point '+'. The one-port s11 (rho)
> looking into the Z0-match point from the source side is 0.0 because
> there are no reflections. The one-port analysis is blind to any
> interference that might be recognized if we were using the two-port
> analysis.
>
> The one-port s11 (rho) looking back into the Z0-match from the load is
> 1.0, same as your virtual open/short. The one-port analysis used for
> your virtual open/short concept is unaware of the interference that is
> visible in a two-port analysis. A one-port analysis cannot tell the
> difference between an actual reflection and a redistribution of energy
> associated with superposition interference.
>
> However, the two-port s11 (rho) looking into the Z0-match from the
> source side is 0.5, i.e. (150-50)/(150+50). Interference is not
> invisible in the two-port analysis. In fact, when the voltage
> reflected toward the source is zero, there is total destructive
> interference in the direction of the source.
>
> b1 = s11*a1 + s12*a2 = 0
>
> where all math is phasor math. The two terms cancel destructively to
> zero. The ExH energy components in those two terms are redistributed
> back toward the load.

>
> In a two-port analysis, the reflection coefficient looking back into
> the Z0-match from the load is called s22. The matching equation is:
>
> b2 = s21*a1 + s22*a2
>
> All of the destructive interference energy involved toward the source
> is redistributed back toward the load as constructive interference.
> But such is invisible in a one-port analysis such as your virtual open/
> short circuit.
>
> There is nothing wrong with your one-port virtual open/short circuit
> analysis. There is also nothing wrong with the more in-depth two-port
> analysis. It is simply that more information is available during the
> two-port analysis.
>
> Over on another newsgroup, some reported using a one-port analysis
> almost all of the time. Tell your critics that you are using a one-
> port analysis where the interference information is simply not
> available during the analysis.
>
> What is the one-port reflection coefficient looking into a Z0-match
> from the source side? 0.0
> What is the one-port reflection coefficient looking into a Z0-match
> from the load side? plus or minus 1.0
>
> That is what you are doing with your virtual open/short and there's
> nothing wrong with a one-port analysis.
> --
> 73, Cecil, w5dxp.com

Hi Cecil and Richard,

Thank you for the insightful response, Cecil. However, when you go to the 2-port version I’m unable to correlate that configuration with my stubbing problem.

Here’s what my problem really involves. Referring to Eq 8 in the first part of Steve Best’s three-part article published in QEX, the equation is as follows: The section within the parentheses is the voltage-increase factor when all reflections have been re-reflected. That section is 1/1 - (rho_’a’ x rho_’s’), where ‘a’ is the mismatch at the antenna (the load) and ‘s’ is the mismatch at the source.

We’re considering the source to be an RF power amp, where we know the output source resistance is non-dissipative, thus re-reflects all reflected power incident on it. I maintain that the reflection coefficient at the source is 1.0 because of the total re-reflection there.

Now consider working with the output of the pi-network of the RF anp, where I believe the reflection coefficient is 1.0, and the 3:1 antenna

mismatch that yields a reflection coefficient of 0.5. Plugging these coefficients into the equation section yields 1/1- (1 x 0.5), which equals 2.0, which is incorrect, making that equation invalid, IMHO. The correct value with these coefficients should be 1.1547, not 2.0.

However, mathematical experts say that the equation is correct, saying that rho_¬'s' cannot be equal to 1.0, because the virtual open circuit was established by wave interference, not a physical open circuit.

1471. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 01:45:36 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <974fd272-17d2-46dc-ac35-51b0e8cb7252@k16g2000yqm.googlegroups.com>
Source record: 4522

On Jun 12, 8:16 pm, walt <w...@w2du.com> wrote:
> Thank you for the insightful response, Cecil. However, when you go to
> the 2-port version I'm unable to correlate that configuration with my
> stubbing problem.

The reason that I didn't say anything about the stub example is
because I cannot comprehend it without a schematic. That's why I
changed examples. Do you agree with what I said about my example?
Could you post a schematic of your first example? It is the "series
stub" part that I don't understand. Such is usually called a "series
section" because a stub is usually a parallel dead end open or short
circuit. It is also difficult to comprehend how a two-port analysis
could be done at the stub connection point. Wouldn't that require a
three-port analysis?

> We're considering the source to be an RF power amp, where we know the
> output source resistance is non-dissipative, thus re-reflects all
> reflected power incident on it. I maintain that the reflection
> coefficient at the source is 1.0 because of the total re-reflection
> there.

How's about we limit the *initial* discussion and examples to a source
with zero incident reflected power so the source impedance doesn't
matter? IMO, a two-port analysis of a Z0-match point will reveal the
main ingredients of the energy flow.

> However, mathematical experts say that the equation is correct, saying
> that rho_¬'s' cannot be equal to 1.0, because the virtual open circuit
> was established by wave interference, not a physical open circuit.

A one-port analysis cannot tell the difference between wave
interference and reflections. You are correct that the reflection
coefficients are not necessarily the same between a one-port analysis
and a two-port analysis. Your "mathematical experts" don't seem to
understand the limitations of a one-port analysis. It's akin to not
knowing what is inside a black box, i.e. one cannot tell the
difference between a resistor and a virtual resistance. However, with
a two-port analysis, one can tell the difference. It appears that your
"mathematical experts" are insisting on a two-port analysis such as
provided by the s-parameter equations:

b1 = s11*a1 + s12*a2

b2 = s21*a1 + s22*a2

http://www.sss-mag.com/pdf/an-95-1.pdf
--

73, Cecil, w5dxp.com

1472. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 02:09:29 UTC
From: walt <walt@w2du.com>
Message-ID: <ba933ec9-e0e4-4cb0-bdc7-c9e43976bfba@25g2000yqn.googlegroups.com>
Source record: 4523

On Jun 12, 9:45 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 8:16 pm, walt <w...@w2du.com> wrote:
>
> > Thank you for the insightful response, Cecil. However, when you go to
> > the 2-port version I'm unable to correlate that configuration with my
> > stubbing problem.
>
> The reason that I didn't say anything about the stub example is
> because I cannot comprehend it without a schematic. That's why I
> changed examples. Do you agree with what I said about my example?
> Could you post a schematic of your first example? It is the "series
> stub" part that I don't understand. Such is usually called a "series
> section" because a stub is usually a parallel dead end open or short
> circuit. It is also difficult to comprehend how a two-port analysis
> could be done at the stub connection point. Wouldn't that require a
> three-port analysis?
>
> > We're considering the source to be an RF power amp, where we know the
> > output source resistance is non-dissipative, thus re-reflects all
> > reflected power incident on it. I maintain that the reflection
> > coefficient at the source is 1.0 because of the total re-reflection
> > there.
>
> How's about we limit the *initial* discussion and examples to a source
> with zero incident reflected power so the source impedance doesn't
> matter? IMO, a two-port analysis of a Z0-match point will reveal the
> main ingredients of the energy flow.
>
> > However, mathematical experts say that the equation is correct, saying
> > that rho_¬'s' cannot be equal to 1.0, because the virtual open circuit
> > was established by wave interference, not a physical open circuit.
>
> A one-port analysis cannot tell the difference between wave
> interference and reflections. You are correct that the reflection
> coefficients are not necessarily the same between a one-port analysis
> and a two-port analysis. Your "mathematical experts" don't seem to
> understand the limitations of a one-port analysis. It's akin to not
> knowing what is inside a black box, i.e. one cannot tell the
> difference between a resistor and a virtual resistance. However, with
> a two-port analysis, one can tell the difference. It appears that your
> "mathematical experts" are insisting on a two-port analysis such as
> provided by the s-parameter equations:
>
> b1 = s11*a1 + s12*a2

>
> b2 = s21*a1 + s22*a2
>
> http://www.sss-mag.com/pdf/an-95-1.pdf
> --
> 73, Cecil, w5dxp.com

Cecil, the series stubbing appears in Reflections, Chapter 23, with the same values as I presented above, with detailed diagrams shown in each step in the progression of the explanation. I hope these diagrams can help.

As I said in the previous post, the experts were referring to the output of the RF amp as not establishing a reflection coefficient rho = 1.0, which has put me in a corner.

Sorry Cecil, I can't correlate a two-port configuration using S parameters with the problem I have. Thanks a million for the discourse.

Walt

1473. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 03:14:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ntuav651bjm9kkp3uioq4mjablteita1f4@4ax.com>
Source record: 4524

On Sun, 12 Jun 2011 19:09:29 -0700 (PDT), walt <walt@w2du.com> wrote:

>the series stubbing appears in Reflections, Chapter 23, with
>the same values as I presented above, with detailed diagrams shown in
>each step in the progression of the explanation. I hope these diagrams
>can help.

In other words, consult:
http://www.w2du.com/Chapter%2023.pdf
Figures 1 through 5

>As I said in the previous post, the experts were referring to the
>output of the RF amp as not establishing a reflection coefficient rho
>= 1.0, which has put me in a corner.

Hi Walt,

How so? (What is the corner?)

73's
Richard Clark, KB7QHC

1474. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 03:31:42 UTC
From: walt <walt@w2du.com>
Message-ID: <40214699-0958-429a-9397-655af0510816@c41g2000yqm.googlegroups.com>
Source record: 4525

On Jun 12, 11:14 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 12 Jun 2011 19:09:29 -0700 (PDT), walt <w...@w2du.com> wrote:
> >the series stubbing appears in Reflections, Chapter 23, with
> >the same values as I presented above, with detailed diagrams shown in
> >each step in the progression of the explanation. I hope these diagrams
> >can help.
>
> In other words, consult:http://www.w2du.com/Chapter%2023.pdf
> Figures 1 through 5
>
> >As I said in the previous post, the experts were referring to the
> >output of the RF amp as not establishing a reflection coefficient rho
> >= 1.0, which has put me in a corner.
>
> Hi Walt,
>
> How so? (What is the corner?)
>
> 73's
> Richard Clark, KB7QHC

The corner I'm in, Richard, is that In Reflections 3, Chapter 25, I assert that Steve Best's Eq 8 in the first part of his three-part article appearing in QEX is invalid, because it gives incorrect answers when I plug in what I believe are correct values of reflection coefficients. Yet his equation agrees with that of Johnson on Page 100 of his "Transmission Lines" text book. In addition, a mathematics expert whom I respect says Best's equation is correct. So I've got to make the decision whether to delete my criticism of his equation or leave it in and be accused of criticizing him incorrectly. What to do!

Walt

1475. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 04:08:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4q1bv6d63f1arnli1ljkgd899a5bpdrmi6@4ax.com>
Source record: 4526

On Sun, 12 Jun 2011 20:31:42 -0700 (PDT), walt <walt@w2du.com> wrote:

>On Jun 12, 11:14ï¿½pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Sun, 12 Jun 2011 19:09:29 -0700 (PDT), walt <w...@w2du.com> wrote:
>> >the series stubbing appears in Reflections, Chapter 23, with
>> >the same values as I presented above, with detailed diagrams shown in
>> >each step in the progression of the explanation. I hope these diagrams
>> >can help.
>>
>> In other words, consult:http://www.w2du.com/Chapter%2023.pdf
>> Figures 1 through 5
>>
>> >As I said in the previous post, the experts were referring to the
>> >output of the RF amp as not establishing a reflection coefficient rho
>> >= 1.0, which has put me in a corner.
>>
>> Hi Walt,
>>
>> How so? ï¿½(What is the corner?)
>>
>> 73's
>> Richard Clark, KB7QHC
>
>
>The corner I'm in, Richard, is that In Reflections 3, Chapter 25,

In other words, consult:
http://www.w2du.com/r3ch25.pdf

>I assert that Steve Best's Eq 8 in the first part of his three-part
>article appearing in QEX is invalid, because it gives incorrect
>answers when I plug in what I believe are correct values of reflection
>coefficients. Yet his equation agrees with that of Johnson on Page 100
>of his "Transmission Lines" text book. In addition, a mathematics
>expert whom I respect says Best's equation is correct. So I've got to
>make the decision whether to delete my criticism of his equation or
>leave it in and be accused of criticizing him incorrectly. What to do!
>
>Walt

Hi Walt,

So this is not only double-deep, through your work to Steve's, but
triple deep then through Steve to Johnson.

Lacking the necessary, culminating edition of Johnson's, I still don't know what the corner is.

Lacking the complete math from all sides of the argument (not somewhere I would like to go), and noting that many authors (not making attributions here) frequently ignore some relatively basic mandates where they don't matter, to then expand into situations where they do matter; then I don't really trust heavily editorialized math analysis.

I note your summary statement for Steve that you find contentious, viz.
"A total re-reflection of power at the match
point is not necessary for the impedance
match to occur."
is one where I would agree with Steve; but not necessarily for reasons brought forward. What is worse, this simple statement may mean three things to two people.

73's
Richard Clark, KB7QHC

1476. Re: AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 11:19:03 UTC
From: Spike <Aero.Spike@S&T.invalid>
Message-ID: <s8rbv69pifasl1mnulhqm9mljocqp9n1s9@4ax.com>
Source record: 4527
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

Ian Wade G3NRW wrote:

>I have added a further update to the AIM4170 Presentation, showing a TDR
>scan on an open-wire feeder.
>
>Go to: http://homepage.ntlworld.com/wadei/aim4170.htm
>
>then click on the link "AIM4170 PowerPoint Presentation".
>
>New slides 72, 73 and 74 show clearly that although Zo = the calculated
>free space value at the antenna feedpoint, it is otherwise considerably
>affected by the feederï¿½s proximity to ground and other objects.
>
>Zo actually falls as the feeder descends from the shack window to the
>garage, remains more-or-less constant as it passes over the garage roof,
>and only begins to increase again as it traverses the hedge and passes
>through the tree. Note also that the impedance decreases slightly where
>the feeder narrows at the antenna feedpoint.
>
>Yet another example of the incredible versatility of the AIM4170.

I'm surprised that there were no FUs to this (at least in ukra).

This looks like a seriously useful bit of kit for the antenna
experimenter, but whether I could personally justify one for my
string-and-sealing-wax approach to short wire antennas is
questionable.

Although this device means one could fine-tune one's antenna, the one
thing that affects very nearly every Amateur is the ground around
their installation, probably up to 10 lambda before the various fields
and rays begin to sort themselves out. There seems to be no equivalent
piece of kit that would enable such an assessment to be made or its
effect on the station's performance to be estimated. I guess most of
us take the view that one lives with what one has, and can't do much
about it anyway.
--

Spike

1477. Re: AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 11:52:23 UTC
From: Andy Foad <punkbiscuit@googlemail.com>
Message-ID: <3239141a-7cc4-4727-b8b0-b57b76bb2b09@e16g2000vbq.googlegroups.com>
Source record: 4528
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

On Jun 13, 12:19 pm, Spike <Aero.Spike@S&T.invalid> wrote:

> I'm surprised that there were no FUs to this (at least in ukra).
>
> This looks like a seriously useful bit of kit for the antenna
> experimenter, but whether I could personally justify one for my
> string-and-sealing-wax approach to short wire antennas is
> questionable.

I had a quick look at this piece of equipment, but couldn't see it
offering anything more than the MRS MiniVNA, which is a two
port device and a more versatile instrument.

(A one port device is useless for setting up filters etc.)

1478. Re: AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 12:19:41 UTC
From: Brian Morrison <bdm@fenrir.org.uk>
Message-ID: <20110613131941.00007fa1@surtees.fenrir.org.uk>
Source record: 4529
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

On Mon, 13 Jun 2011 12:19:03 +0100
Spike <Aero.Spike@S&T.invalid> wrote:

> I guess most of
> us take the view that one lives with what one has, and can't do much
> about it anyway.

Yes, it's about that. My bit of Bedfordshire is so dry at present that
I reckon the ground conductivity will be so low that I'm going to have
to put down a ground mat/radials rather than try to get ground spikes
down into the damp sub-soil.

--

Brian Morrison

1479. Re: AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 12:23:09 UTC
From: Brian Morrison <bdm@fenrir.org.uk>
Message-ID: <20110613132309.00002b87@surtees.fenrir.org.uk>
Source record: 4530
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

On Mon, 13 Jun 2011 04:52:23 -0700 (PDT)
Andy Foad <punkbiscuit@googlemail.com> wrote:

> On Jun 13, 12:19 pm, Spike <Aero.Spike@S&T.invalid> wrote:
>
> > I'm surprised that there were no FUs to this (at least in ukra).
> >
> > This looks like a seriously useful bit of kit for the antenna
> > experimenter, but whether I could personally justify one for my
> > string-and-sealing-wax approach to short wire antennas is
> > questionable.
>
> I had a quick look at this piece of equipment, but couldn't see it
> offering anything more than the MRS MiniVNA, which is a two
> port device and a more versatile instrument.
>
> (A one port device is useless for setting up filters etc.)
>
>
>

And it's a bit more future proof since it has a USB connection rather
than RS-232.

--

Brian Morrison

1480. Re: AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 12:51:33 UTC
From: Andy Foad <punkbiscuit@googlemail.com>
Message-ID: <c5c89069-da6f-4330-9048-699b99eb8ee2@a35g2000vbl.googlegroups.com>
Source record: 4531
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur
Body handling: HTML body converted to readable text

On Jun 13, 1:23 pm, Brian Morrison wrote:

> And it's a bit more future proof since it has a USB connection rather
> than RS-232.

I don't think RS232 is going to die just yet.

It's still easy to cater for, but as you say, USB
is a lot more convenient since just sbout every PC
these days has them.

However I'm always cautious about anything software
driven becoming obsolete.

Hence I also keep a Palstar ZM30 around for HF work,
that doesn't require a PC, but still gives me all the relevent
data for antenna work.

And after all that, I still insist on a final tune up with a
field strength meter ;-)

The mini VNA being a two port device is great for making high/low
/bandpass./notch filters and instant seeing the response.

You can line up IF xtal filters etc. Very versatile.

1481. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 15:13:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f8d94e75-23c1-4711-804b-67b89a44079a@d19g2000prh.googlegroups.com>
Source record: 4532

Thoughts on voltage vs power, reflection vs interference:

What most RF people do is deal exclusively with voltages. Power is considered only at the beginning and end of a voltage analysis, NOT during the voltage analysis. If joules/second are to be tracked seamlessly throughout the analysis, a working knowledge of the effects of superposition/interference is absolutely necessary. Optical physicists do not have the luxury of working exclusively with voltages, as we do in RF, so they must necessarily understand superposition/interference and be able to track every component of irradiance (power density).

I took a look at Johnson and he is dealing with voltage, not power, and certainly not with dissipationless resistances as part of the generator source impedance. He uses 'k' sub-script 'g' as the symbol for the voltage reflection coefficient. I'm going to use 'rho' for his 'k' with braces {g} indicating subscripts. His *voltage* reflection coefficient at the generator is:

rho{g} = (Zg-Z0)/(Zg+Z0)

which is just standard *voltage* wave reflection mechanics. What happens to the energy (power) in superposed waves is completely transparent when superposing voltages. For instance, let's say we have two 200 watt waves in a 50 ohm environment which makes each of their voltage magnitudes equal to 100 volts RMS. The electric fields of the two waves are 120 degrees apart. What happens when we superpose 100 volts at +60 degrees with 100 volts at -60 degrees?

Every student of three-phase power systems knows the result will be 100 volts at zero degrees. All is well until we take a look at the energy in those two superposed waves. Each wave is associated with an ExH amount of power, V^2/Z0=200w, for a total of 400 watts in the two waves. The resultant (total?) superposed wave contains 200 watts of ExH power. Most people don't give this idea a second thought but where did the other 200 watts go? To answer the question, one must understand destructive/constructive interference. In the above example, there is 200 watts of destructive interference present so the resulting "total" voltage is not the only component of superposition.

If the above occurs in a transmission line, the amount of destructive interference energy that is lost in the direction of superposition, e.g. toward the load, is redistributed in the only other direction possible, i.e. toward the source. There is a second 200w wave generated that travels toward the source but that fact is not covered when voltage superposition is involved. Note that it is a reverse-

traveling wave but it is technically not a reflection of a single wave as it is the result of superposition of two waves.

Voltage superposition takes care of itself and everyone believes in the conservation of energy principle which is probably why very few people ask, "Where does the power go?" It is only when we are trying to track energy throughout the system that we are forced to understand the effects associated with interference.

Thoughts on one-port analysis vs two-port analysis.

Sources are necessarily treated as single-port devices. We know we often get completely different reflection coefficients when treating something as a single-port device vs as a dual-port device. For instance, most of us treat a dipole feedpoint as a single-port device when it is actually far from being a single-port device. In reality, many other things besides a single reflection, are happening at a dipole's feedpoint. The actual physical reflection coefficient at the feedpoint of a "50 ohm" dipole fed with 50 ohm coax is around 0.845 because the characteristic impedance of a #14 wire 30 feet above ground is around 600 ohms. Proof: Eliminate the reflections from the ends of the dipole by terminating the ends of the inv-V dipole to ground through 600 ohm resistors and the SWR on the 50 ohm feedline goes to 12:1.

Because of reflections from the ends of the dipole, a lot of interference is happening at the feedpoint which results in a *virtual* reflection coefficient of 0.0 only because of the single-port analysis that is ordinarily used. IMO, a virtual reflection coefficient is a *result* and cannot cause anything including reflections. IMO, only physical reflection coefficients, i.e. physical impedance discontinuities, can *cause* reflections. Much of what we consider to be reflections are the result of interference.

Seems that something similar, but more complicated, is happening inside a source where there is an active-source component in the mix. IMO, what is happening to the energy inside a source cannot possibly be understood without taking the effects associated with interference into account.
--
73, Cecil, w5dxp.com

1482. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 18:55:48 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <3df2f78a-02e3-40c3-b880-9192344f2ec1@s16g2000prf.googlegroups.com>
Source record: 4533

walt wrote:
> I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> transmission lines.This is not a trick question. This is a straight-
> forward question for which I 'm dead serious. The answer will involve
> a resulting reflection coefficient.
>
> Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> yielding a 3:1 mismatch with a voltage reflection coefficient Vρ equal
> to 0.5 at 0°. We want to place a stub on the line at the position
> relating to the unit-resistance circle on the Smith Chart. For a 3:1
> mismatch this position is exactly 30° rearward from the load, and has
> a voltage reflection coefficient Vρ equal to 0.5 at -60°. The
> normalized line resistance at this point is 1.1547 chart ohms, or
> 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> ohms.
>
> Placing a short-circuited stub having an inductive reactance of
> +j57.735 ohms on the line cancels the line reactance, establishing a
> new line impedance at this matching point of 50 + j0. However, a lot
> more is involved than just canceling the reactances to establish the
> impedance match. To begin, the stub generates a new, secondary,
> canceling reflection that cancels the primary reflected wave generated
> by the mismatched line termination.
>
> Recall the voltage reflection coefficient Vρ of the line impedance
> prior to placing the stub--Vρ = 0.5 at -60°. The corresponding current
> reflection coefficient Iρ = 0.5 at +120°
>
> We now look at the voltage reflection coefficient of the stub, which
> is Vρ = 0.5 at +60°, and the corresponding current reflection
> coefficient of the stub which is Iρ = 0.5 at -120°.
>
> Observe that resultant angle of the voltage coefficients is 0° and
> resultant angle of the current coefficients is 180°, all with the same
> magnitude--0.5. It is well known that when these respective
> coefficients exist at this point, the matching point, this condition
> establishes a virtual open circuit to rearward traveling waves at this
> point, prohibiting any further rearward travel of the reflected waves,
> thus reversing their direction toward the load.
>
> Consequently, the result is total re-reflection of the two sets of
> reflected waves at the match point.
>

> Now the question--what is the resultant voltage coefficient of
> reflection at the match point? My position is that ρ = 1.0, which
> indicates total reflection. However, I've been criticized on this
> value, my critics saying that because this virtual open circuit was
> established by wave interference, ρ cannot equal 1.0. They assert
> that ρ = 1.0 can be obtained only through a physical open circuit.
>
> So I now ask you, am I correct in saying that the reflection
> coefficient in this situation is 1.0? I'm holding my breath for your
> answers.
>
> Walt

Walt,

I've gotten confused here...I see in your follow-up posting that the "stub" is to be in series with the line, but you also talk about a shorted stub. It doesn't make any sense to me to put a shorted section of line in series with another line, so my confusion starts. Next, I'm assuming that we're talking about lines with real (non-reactive) impedance, so I'm wondering why you go 30 degrees from the load to a point where the reflected impedance is, as you say, 50-j57 ohms. I'm assuming we want to get to 50 ohms, eventually, and the series section to do that from this 50-j57 ohm point would have to have infinite characteristic impedance. Why not just start from the load and use a line whose impedance is sqrt(150*50) and is 1/4 wave long? That seems a no-brainer.

Or, if you want to use 50 ohm lines, go 60 degrees from the 150 ohm load and tap into the line with a shorted _stub_ (not series line section) that's about 40 degrees long, and you have your match to 50 ohms.

But of course, you're not necessarily looking for a straightforward solution to a matching problem here, you have a question about reflection coefficients. Since I got confused about just what the configuration really is, I didn't even try to sort out the rest of the posting about reflection coefficients, and I'm afraid I thus can't offer an answer to your ultimate question. I will say, though, that in a (theoretical, since lossless is assumed) system of TEM lines having real (non-reactive) impedances and loads that don't generate power, you can have any reflection coefficient magnitude from zero to unity. If you have dissipative loads, the only way you can get to unity reflection coefficient magnitude is to arrange the lines to prevent any power actually being dissipated in any of the loads: e.g., shunt the loads with shorts, or put opens in series with them.

Cheers,
Tom

1483. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 19:34:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <303a8672-cf56-4112-bd95-0425cdf26563@l18g2000yql.googlegroups.com>
Source record: 4534

On Jun 13, 1:55 pm, K7ITM <k7...@msn.com> wrote:
> It doesn't make any sense to me to put a shorted
> section of line in series with another line, so my confusion starts.

Tom, I didn't know initially that the example was in "Reflections III". A series stub can be used instead of a loading coil on a wire antenna. I had never seen a series stub used in such a manner on a transmission line and that's why I was confused. I'm assuming that the center conductor is broken and one side is connected to the inner conductor and one side is connected to the braid on a stub, but I am not sure that is correct. There's got to be a less complicated example that we can use.
--
73, Cecil, w5dxp.com

1484. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 19:41:42 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <it5p5mjuq1@dont-email.me>
Source record: 4535

On 6/13/2011 12:34 PM, Cecil Moore wrote:
> On Jun 13, 1:55 pm, K7ITM<k7...@msn.com> wrote:
>> It doesn't make any sense to me to put a shorted
>> section of line in series with another line, so my confusion starts.
>
> Tom, I didn't know initially that the example was in "Reflections
> III". A series stub can be used instead of a loading coil on a wire
> antenna. I had never seen a series stub used in such a manner on a
> transmission line and that's why I was confused. I'm assuming that the
> center conductor is broken and one side is connected to the inner
> conductor and one side is connected to the braid on a stub, but I am
> not sure that is correct. There's got to be a less complicated example
> that we can use.
> --
> 73, Cecil, w5dxp.com

Here is a small handout, with a smith chart example!

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1485. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 19:46:01 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <it5pdpjuq2@dont-email.me>
Source record: 4536

On 6/13/2011 12:34 PM, Cecil Moore wrote:
> On Jun 13, 1:55 pm, K7ITM<k7...@msn.com> wrote:
>> It doesn't make any sense to me to put a shorted
>> section of line in series with another line, so my confusion starts.
>
> Tom, I didn't know initially that the example was in "Reflections
> III". A series stub can be used instead of a loading coil on a wire
> antenna. I had never seen a series stub used in such a manner on a
> transmission line and that's why I was confused. I'm assuming that the
> center conductor is broken and one side is connected to the inner
> conductor and one side is connected to the braid on a stub, but I am
> not sure that is correct. There's got to be a less complicated example
> that we can use.
> --
> 73, Cecil, w5dxp.com

Larger example:

http://personal.ee.surrey.ac.uk/Personal/D.Jefferies/jefferies-stub.html

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1486. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 20:08:42 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <it5qoajuq9@dont-email.me>
Source record: 4537

On 6/13/2011 12:34 PM, Cecil Moore wrote:
> On Jun 13, 1:55 pm, K7ITM<k7...@msn.com> wrote:
>> It doesn't make any sense to me to put a shorted
>> section of line in series with another line, so my confusion starts.
>
> Tom, I didn't know initially that the example was in "Reflections
> III". A series stub can be used instead of a loading coil on a wire
> antenna. I had never seen a series stub used in such a manner on a
> transmission line and that's why I was confused. I'm assuming that the
> center conductor is broken and one side is connected to the inner
> conductor and one side is connected to the braid on a stub, but I am
> not sure that is correct. There's got to be a less complicated example
> that we can use.
> --
> 73, Cecil, w5dxp.com

Small handout with example and smith chart:

http://www.ittc.ku.edu/~jstiles/723/handouts/Series%20Stub%20Tuning.pdf

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1487. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 20:22:03 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b4fe8f99-0ed3-4cbc-b7c8-113be2dfe883@k6g2000yqc.googlegroups.com>
Source record: 4538

On Jun 13, 2:46 pm, John Smith <bit_buc...@gmx.com> wrote:
> http://personal.ee.surrey.ac.uk/Personal/D.Jefferies/jefferies-stub.html

Thanks John, I can't help but point out that such a "series stub"
unbalances the transmission line currents resulting in common-mode
currents on the outside braid and is probably a deviation from the
original design specifications. There has got to be a simpler example
that illustrates the question/answer. I thought I had it with my Z0-
match example but maybe not.
--
73, Cecil, w5dxp.com

1488. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 20:24:53 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <it5rmm$3ua$2@dont-email.me>
Source record: 4539

On 6/13/2011 1:22 PM, Cecil Moore wrote:
> On Jun 13, 2:46 pm, John Smith<bit_buc...@gmx.com> wrote:
>> http://personal.ee.surrey.ac.uk/Personal/D.Jefferies/jefferies-stub.html
>
> Thanks John, I can't help but point out that such a "series stub"
> unbalances the transmission line currents resulting in common-mode
> currents on the outside braid and is probably a deviation from the
> original design specifications. There has got to be a simpler example
> that illustrates the question/answer. I thought I had it with my Z0-
> match example but maybe not.
> --
> 73, Cecil, w5dxp.com

Quite possible ...

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1489. Re: AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 21:39:13 UTC
From: HAGGIS KILT <haggis.munchin.kilt.lifter@gmail.com>
Message-ID: <d2ad9257-a4fb-40bf-acd4-65d9a7e462ee@y27g2000prb.googlegroups.com>
Source record: 4540
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

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1490. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 22:05:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c09bcd28-d3ad-4883-802c-46f36a01c696@v18g2000yqe.googlegroups.com>
Source record: 4541

On Jun 13, 3:08 pm, John Smith <bit_buc...@gmx.com> wrote:
> http://www.ittc.ku.edu/~jstiles/723/handouts/Series%20Stub%20Tuning.pdf

Thanks John, but I would like to see the schematic for coax. Shirley,
one doesn't cut the braid and add a stub?
--
73, Cecil, w5dxp.com

1491. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 22:13:38 UTC
From: walt <walt@w2du.com>
Message-ID: <5ca234ff-634d-40aa-b9fc-82537ab68539@w4g2000yqm.googlegroups.com>
Source record: 4542

On Jun 13, 2:55 pm, K7ITM <k7...@msn.com> wrote:
> walt wrote:
> > I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> > transmission lines.This is not a trick question. This is a straight-
> > forward question for which I 'm dead serious. The answer will involve
> > a resulting reflection coefficient.
>
> > Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> > yielding a 3:1 mismatch with a voltage reflection coefficient Vñ equal
> > to 0.5 at 0°. We want to place a stub on the line at the position
> > relating to the unit-resistance circle on the Smith Chart. For a 3:1
> > mismatch this position is exactly 30° rearward from the load, and has
> > a voltage reflection coefficient Vñ equal to 0.5 at -60°. The
> > normalized line resistance at this point is 1.1547 chart ohms, or
> > 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> > ohms.
>
> > Placing a short-circuited stub having an inductive reactance of
> > +j57.735 ohms on the line cancels the line reactance, establishing a
> > new line impedance at this matching point of 50 + j0. However, a lot
> > more is involved than just canceling the reactances to establish the
> > impedance match. To begin, the stub generates a new, secondary,
> > canceling reflection that cancels the primary reflected wave generated
> > by the mismatched line termination.
>
> > Recall the voltage reflection coefficient Vñ of the line impedance
> > prior to placing the stub--Vñ = 0.5 at -60°. The corresponding current
> > reflection coefficient Iñ = 0.5 at +120°
>
> > We now look at the voltage reflection coefficient of the stub, which
> > is Vñ = 0.5 at +60°, and the corresponding current reflection
> > coefficient of the stub which is Iñ = 0.5 at -120°.
>
> > Observe that resultant angle of the voltage coefficients is 0° and
> > resultant angle of the current coefficients is 180°, all with the same
> > magnitude--0.5. It is well known that when these respective
> > coefficients exist at this point, the matching point, this condition
> > establishes a virtual open circuit to rearward traveling waves at this
> > point, prohibiting any further rearward travel of the reflected waves,
> > thus reversing their direction toward the load.
>
> > Consequently, the result is total re-reflection of the two sets of
> > reflected waves at the match point.
>

> > Now the question--what is the resultant voltage coefficient of
> > reflection at the match point? My position is that ñ = 1.0, which
> > indicates total reflection. However, I've been criticized on this
> > value, my critics saying that because this virtual open circuit was
> > established by wave interference, ñ cannot equal 1.0. They assert
> > that ñ = 1.0 can be obtained only through a physical open circuit.
>
> > So I now ask you, am I correct in saying that the reflection
> > coefficient in this situation is 1.0? I'm holding my breath for your
> > answers.
>
> > Walt
>
> Walt,
>
> I've gotten confused here...I see in your follow-up posting that the
> "stub" is to be in series with the line, but you also talk about a
> shorted stub. It doesn't make any sense to me to put a shorted
> section of line in series with another line, so my confusion starts.
> Next, I'm assuming that we're talking about lines with real (non-
> reactive) impedance, so I'm wondering why you go 30 degrees from the
> load to a point where the reflected impedance is, as you say, 50-j57
> ohms. I'm assuming we want to get to 50 ohms, eventually, and the
> series section to do that from this 50-j57 ohm point would have to
> have infinite characteristic impedance. Why not just start from the
> load and use a line whose impedance is sqrt(150*50) and is 1/4 wave
> long? That seems a no-brainer.
>
> Or, if you want to use 50 ohm lines, go 60 degrees from the 150 ohm
> load and tap into the line with a shorted _stub_ (not series line
> section) that's about 40 degrees long, and you have your match to 50
> ohms.
>
> But of course, you're not necessarily looking for a straightforward
> solution to a matching problem here, you have a question about
> reflection coefficients. Since I got confused about just what the
> configuration really is, I didn't even try to sort out the rest of the
> posting about reflection coefficients, and I'm afraid I thus can't
> offer an answer to your ultimate question. I will say, though, that
> in a (theoretical, since lossless is assumed) system of TEM lines
> having real (non-reactive) impedances and loads that don't generate
> power, you can have any reflection coefficient magnitude from zero to
> unity. If you have dissipative loads, the only way you can get to
> unity reflection coefficient magnitude is to arrange the lines to
> prevent any power actually being dissipated in any of the loads:
> e.g., shunt the loads with shorts, or put opens in series with them.
>
> Cheers,
> Tom

Thank you for the response, Tom, but apparently you're not familiar with series stub vs parallel. You are correct that going 60° from the load is the location for a parallel stub to obtain a line impedance of 50+j0 ohms from the stub to the source. That location is the second time you pass the unity-resistance circle on the Smith Chart, only this second time it's the unity-conductance circle. Either method of stubbing works. The first time the unity-resistance circle is reached with a mismatch of 3:1 at the load is 30°, where the reflection coefficient rho = 0.5 @ -60°. The normalized line impedance at that location is 1 - j1.1547 chart ohms, or 50 - j57.7 ohms relative to Zo = 50 ohms. A shorted stub in series with the line at that location of length that will derive a normalized inductive reactance of +j1.1547 generates a secondary reflection that cancels the load-generated reflection. The voltage reflection coefficient of the stub is 0.5 @ +60°, the opposite of the voltage coefficient of the line at that location. In addition, the current reflection coefficient of the line at that location is 0.5 @ +120°, while the current reflection coefficient of the stub is 0.5 @-120°.

Consequently, the resultant voltage coefficient is 0.5 @ 0° and resultant current coefficient is 0.5 @180°. When these specific coefficients occur at the same location, a one-way virtual open circuit is established that prevents any further rearward travel of the reflected waves, but reverses their direction to forward, and in phase with their respective voltages and currents delivered by the source.

The problem I'm having is where the canceling reflected wave is established either by the antenna tuner, or the optimum tuning and loading of the pi-network tank circuit of the RF amp. We know that the canceling wave in the tuner occurs at its input terminals. However, many are uncomfortable in thinking of the output source resistance of the pi-network tank circuit as being non-dissipative (which it is), and thus re-reflects all reflected power incident upon it, and therefore, IMHO, the reflection coefficient of both the antenna tuner and the tank circuit is rho = 1.0.

My problem is in using Eq 8 that appears in Part one of Steve Best's three-part article in QEX on wave mechanics. The simplified version of Eq 8 is: 1/1-(rho_s x rho_a), where 's' = source resistance of the tank, and 'a' = mismatch at the antenna-feed line junction.

Mathematicians say Eq 8 is ok, and it does agree with Johnson on Page 100 of his text Transmission Lines. However, when I plug in 's' = 1.0 for the total re-reflection at the tank, and 'a' = 0.5 for the reflection at the antenna-feed line junction, Eq 8 delivers a value of 2, which is incorrect--the correct value is 1.1574, the voltage-increase factor when all reflected power is re-reflected with a 3:1 mismatch.

In Reflections 3, Chapter 25 I stated that Best's Eq 8 is incorrect, based on my calculations. However, mathematicians whom I respect say I'm wrong. Evidently, I'm going to have to delete that portion of

Chapter 25 to avoid having readers view incorrect information. What's going on here?

Tom, if you have the time and the inclination to review this post, I'd be grateful for your opinion on whether the non-dissipative tank circuit can have a reflection coefficient of 1.0.

1492. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-13 22:17:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <64ce81f3-97a6-4a05-ba9d-654fb8c665b5@g28g2000yqa.googlegroups.com>
Source record: 4543

On Jun 12, 9:09 pm, walt <w...@w2du.com> wrote:
> Sorry Cecil, I can't correlate a two-port configuration using S
> parameters with the problem I have.

In a one-port analysis, virtual impedances cause reflections. In a two-port analysis, only physical impedance discontinuities cause reflections. As I see it, that is the entire problem in a nutshell. You are using a one-port analysis for virtually :-) all of your analyses, including your source analysis. Your detractors are trying to talk you into using a two-port analysis.
--
73, Cecil, w5dxp.com

1493. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 01:38:14 UTC
From: walt <walt@w2du.com>
Message-ID: <4c6bddf3-d8d5-4404-bf07-c415a12d9c16@r2g2000vbj.googlegroups.com>
Source record: 4544

On Jun 13, 6:17 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 9:09 pm, walt <w...@w2du.com> wrote:
>
> > Sorry Cecil, I can't correlate a two-port configuration using S
> > parameters with the problem I have.
>
> In a one-port analysis, virtual impedances cause reflections. In a two-
> port analysis, only physical impedance discontinuities cause
> reflections. As I see it, that is the entire problem in a nutshell.
> You are using a one-port analysis for virtually :-) all of your
> analyses, including your source analysis. Your detractors are trying
> to talk you into using a two-port analysis.
> --
> 73, Cecil, w5dxp.com

Cecil, as I said earlier, I can't see any relation between a two-port configuration and the tank circuit of an RF power amp. Why are you pushing it? Can't you just tell me whether you agree that the reflection coefficient at the output of the tank circuit is rho = 1.0 or not. If you don't believe it does, even though it re-reflects all the reflected power incident on it, then please explain what you believe the reflection coefficient is at this point.

Walt, W2DU

1494. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 04:25:28 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <d98c7b87-02bf-4efa-b455-be26181d7f32@h12g2000pro.googlegroups.com>
Source record: 4545

Cecil Moore wrote:
> On Jun 13, 1:55 pm, K7ITM <k7...@msn.com> wrote:
> > It doesn't make any sense to me to put a shorted
> > section of line in series with another line, so my confusion starts.
>
> Tom, I didn't know initially that the example was in "Reflections
> III". A series stub can be used instead of a loading coil on a wire
> antenna. I had never seen a series stub used in such a manner on a
> transmission line and that's why I was confused. I'm assuming that the
> center conductor is broken and one side is connected to the inner
> conductor and one side is connected to the braid on a stub, but I am
> not sure that is correct. There's got to be a less complicated example
> that we can use.
> --
> 73, Cecil, w5dxp.com

Ah, OK. Now I understand what Walt meant... Though it's possible to use a series stub on a transmission line, as you say, it's not all that common in practice. I suppose that's why my mind wasn't going there. Mea culpa. Perhaps now I can go back and look at Walt's original question and make more sense out of it.

When a series stub is used in an antenna (as in a quarter-wave stub coupling colinear half-waves), King points out that coupling from the antenna fields to the wires in the stub, when the stub is an open-wire line perpendicular to the axis of the half-waves, is an important factor in how the stub operates to establish in-phase currents on the adjacent half-waves... I see you made a comment about antenna currents on the stub in John Smith's example, too.

Cheers,
Tom

1495. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 04:43:23 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <it6otd$865$1@dont-email.me>
Source record: 4546

On 6/13/2011 3:05 PM, Cecil Moore wrote:
> On Jun 13, 3:08 pm, John Smith<bit_buc...@gmx.com> wrote:
>> http://www.ittc.ku.edu/~jstiles/723/handouts/Series%20Stub%20Tuning.pdf
>
> Thanks John, but I would like to see the schematic for coax. Shirley,
> one doesn't cut the braid and add a stub?
> --
> 73, Cecil, w5dxp.com

LOL!

Never lose that sense of humor, love it!

--

Regards,
JS
ï¿½The Constitution is not an instrument for the government to restrain
the people, itï¿½s an instrument for the people to restrain the
government.ï¿½ -- Patrick Henry

1496. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 05:00:47 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <50b6f11d-a1fe-4292-88b6-270279355428@r33g2000prh.googlegroups.com>
Source record: 4547

walt wrote:
> I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> transmission lines.This is not a trick question. This is a straight-
> forward question for which I 'm dead serious. The answer will involve
> a resulting reflection coefficient.
>
> Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> yielding a 3:1 mismatch with a voltage reflection coefficient Vρ equal
> to 0.5 at 0°. We want to place a stub on the line at the position
> relating to the unit-resistance circle on the Smith Chart. For a 3:1
> mismatch this position is exactly 30° rearward from the load, and has
> a voltage reflection coefficient Vρ equal to 0.5 at -60°. The
> normalized line resistance at this point is 1.1547 chart ohms, or
> 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> ohms.
>
> Placing a short-circuited stub having an inductive reactance of
> +j57.735 ohms on the line cancels the line reactance, establishing a
> new line impedance at this matching point of 50 + j0. However, a lot
> more is involved than just canceling the reactances to establish the
> impedance match. To begin, the stub generates a new, secondary,
> canceling reflection that cancels the primary reflected wave generated
> by the mismatched line termination.
>
> Recall the voltage reflection coefficient Vρ of the line impedance
> prior to placing the stub--Vρ = 0.5 at -60°. The corresponding current
> reflection coefficient Iρ = 0.5 at +120°
>
> We now look at the voltage reflection coefficient of the stub, which
> is Vρ = 0.5 at +60°, and the corresponding current reflection
> coefficient of the stub which is Iρ = 0.5 at -120°.
>
> Observe that resultant angle of the voltage coefficients is 0° and
> resultant angle of the current coefficients is 180°, all with the same
> magnitude--0.5. It is well known that when these respective
> coefficients exist at this point, the matching point, this condition
> establishes a virtual open circuit to rearward traveling waves at this
> point, prohibiting any further rearward travel of the reflected waves,
> thus reversing their direction toward the load.
>
> Consequently, the result is total re-reflection of the two sets of
> reflected waves at the match point.
>

> Now the question--what is the resultant voltage coefficient of
> reflection at the match point? My position is that ρ = 1.0, which
> indicates total reflection. However, I've been criticized on this
> value, my critics saying that because this virtual open circuit was
> established by wave interference, ρ cannot equal 1.0. They assert
> that ρ = 1.0 can be obtained only through a physical open circuit.
>
> So I now ask you, am I correct in saying that the reflection
> coefficient in this situation is 1.0? I'm holding my breath for your
> answers.
>
> Walt

OK, now that I understand the series stub configuration, I have to ask: "the" reflection coefficient looking into WHAT? Looking back toward the source in its feedline? Looking back toward the source but including the series stub? Looking toward the load, including the series stub?

The way I look at this problem is as a measurements person: once I know where I'm looking, how will I measure the value of the reflection coefficient? The way I would normally do it is with a network analyzer. If I want to do it in the presence of significant power coming from a source, I can set up directional couplers to allow me to introduce a test signal (that I must be able to distinguish from the power coming from the source) and observe the reflection.

You can also replace each piece of transmission line (including the piece that's the stub) with an S-parameter two-port, and the source and load as S-parameter one-ports, and apply standard S-parameter math to see what the reflection coefficient is looking into any particular port.

I suppose this is going to give you an answer different from the one you're hoping for...but I believe it's consistent with the definitions for linear system analysis that I've always used.

Consider the case of two identical sources generating the same signal but 180 degrees out of phase. Each source is connected to a length of transmission line, and the two lines are identical. Just for fun, the line impedance equals the source impedance. The free ends of the lines are connected in parallel and to a resistive load. Of course, we find that the signals cancel and there is no power dissipated in the load. Would we say that the reflection coefficient magnitude looking back into either line toward the source is unity? I would not! I would say it is zero, since any signal I send in that direction is absorbed in the source. Note in this example that you can disconnect the load and not change anything. Then you simply have the signal from each source traveling to the other source and being absorbed; if you put the sources on two different frequencies, you'll see no standing wave for either frequency (though you'll have to

average for a while to be sure about that, if the frequencies are close together). And note, please, that "absorbed" is not in general the same thing as "dissipated."

Cheers,
Tom

1497. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 17:00:59 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <89c0a144-0003-4a0f-8d1f-81239490c942@k16g2000yqm.googlegroups.com>
Source record: 4548

On Jun 12, 10:31 pm, walt <w...@w2du.com> wrote:
> So I've got to
> make the decision whether to delete my criticism of his equation or
> leave it in and be accused of criticizing him incorrectly. What to do!

Personally, I didn't find anything wrong with parts 1 and 2. It's in
part 3 where Dr. Best gets lost. In an exchange on this newsgroup
before the article was published, he asserted that there was no
interference occurring at an impedance discontinuity on a transmission
line. When he published his component powers, he took into account
P1and P2 while completely ignoring (what I have dubbed) the component
powers, P3 and P4 in the opposite direction. He even invented
something like two phantom waves traveling forever in the direction of
total destructive interference while transporting energy but
completely canceling each other in the process, obviously a physical
impossibility.
--
73, Cecil, w5dxp.com

1498. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 18:00:50 UTC
From: walt <walt@w2du.com>
Message-ID: <edefdf22-3c96-4bec-86f0-5041d049a83a@a35g2000vbl.googlegroups.com>
Source record: 4549

On Jun 14, 12:25 am, K7ITM <k7...@msn.com> wrote:
> Cecil Moore wrote:
> > On Jun 13, 1:55 pm, K7ITM <k7...@msn.com> wrote:
> > > It doesn't make any sense to me to put a shorted
> > > section of line in series with another line, so my confusion starts.
>
> > Tom, I didn't know initially that the example was in "Reflections
> > III". A series stub can be used instead of a loading coil on a wire
> > antenna. I had never seen a series stub used in such a manner on a
> > transmission line and that's why I was confused. I'm assuming that the
> > center conductor is broken and one side is connected to the inner
> > conductor and one side is connected to the braid on a stub, but I am
> > not sure that is correct. There's got to be a less complicated example
> > that we can use.
> > --
> > 73, Cecil, w5dxp.com
>
> Ah, OK. Now I understand what Walt meant... Though it's possible to
> use a series stub on a transmission line, as you say, it's not all
> that common in practice. I suppose that's why my mind wasn't going
> there. Mea culpa. Perhaps now I can go back and look at Walt's
> original question and make more sense out of it.
>
> When a series stub is used in an antenna (as in a quarter-wave stub
> coupling colinear half-waves), King points out that coupling from the
> antenna fields to the wires in the stub, when the stub is an open-wire
> line perpendicular to the axis of the half-waves, is an important
> factor in how the stub operates to establish in-phase currents on the
> adjacent half-waves... I see you made a comment about antenna
> currents on the stub in John Smith's example, too.
>
> Cheers,
> Tom

Tom and Cecil,

My use of the series stub wasn't meant to be of practical use. I used
it only as a tool to explain a simple matching procedure. I used
series rather than parallel, because I wanted it to be simple to use
for those who are not as accustomed to admittance procedure as they
are with impedance. Sorry if I misled you.

Walt

1499. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 18:26:41 UTC
From: walt <walt@w2du.com>
Message-ID: <2c65b523-af1e-4f5d-b70e-8f25e0f23202@k16g2000yqm.googlegroups.com>
Source record: 4550

On Jun 14, 12:25 am, K7ITM <k7...@msn.com> wrote:
> Cecil Moore wrote:
> > On Jun 13, 1:55 pm, K7ITM <k7...@msn.com> wrote:
> > > It doesn't make any sense to me to put a shorted
> > > section of line in series with another line, so my confusion starts.
>
> > Tom, I didn't know initially that the example was in "Reflections
> > III". A series stub can be used instead of a loading coil on a wire
> > antenna. I had never seen a series stub used in such a manner on a
> > transmission line and that's why I was confused. I'm assuming that the
> > center conductor is broken and one side is connected to the inner
> > conductor and one side is connected to the braid on a stub, but I am
> > not sure that is correct. There's got to be a less complicated example
> > that we can use.
> > --
> > 73, Cecil, w5dxp.com
>
> Ah, OK. Now I understand what Walt meant... Though it's possible to
> use a series stub on a transmission line, as you say, it's not all
> that common in practice. I suppose that's why my mind wasn't going
> there. Mea culpa. Perhaps now I can go back and look at Walt's
> original question and make more sense out of it.
>
> When a series stub is used in an antenna (as in a quarter-wave stub
> coupling colinear half-waves), King points out that coupling from the
> antenna fields to the wires in the stub, when the stub is an open-wire
> line perpendicular to the axis of the half-waves, is an important
> factor in how the stub operates to establish in-phase currents on the
> adjacent half-waves... I see you made a comment about antenna
> currents on the stub in John Smith's example, too.
>
> Cheers,
> Tom

I'm sorry to have misled you in bringing up the series stub problem.
What I'm really concerned about is the reflection coefficient at the
output of the tank circuit of the RF power amp. Being non-dissipative
it cannot absorb the reflected power, so it must re-reflect it.
Therefore, my position is that its reflection coefficient rho = 1.0,
My critics say that a rho = 1.0 cannot be established when the virtual
short is caused by wave interference. However, if Best's Eq 8 is
valid, then why does it yield an incorrect answer when I plug in rho s
= 1, and rho a = 0.5, which gives 2 as the answer, instead of the
correct 1.1547 as the correct answer.

Now that I've narrowed the problem down, what do you believe is the answer? Your answer will determine whether I need to delete the pertinent paragraph from Chapter 25 in Reflections 3, in which I have declared Best's Eq 8 invalid.

Walt

Walt

1500. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 18:58:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fcafv6lqc78elbfi325ev0rmmapn7ei22t@4ax.com>
Source record: 4451

On Tue, 14 Jun 2011 11:26:41 -0700 (PDT), walt <walt@w2du.com> wrote:

Hi Walt,

The focus seems to have shifted away from the matching hardware
previously described to:
>What I'm really concerned about is the reflection coefficient at the
>output of the tank circuit of the RF power amp.

It includes a point argued by many, and which you make a condition of
success for your argument:
>Being non-dissipative
>it cannot absorb the reflected power, so it must re-reflect it.

Your argument now applied at two points, one not illustrated in your
references (the source):
>Therefore, my position is that its reflection coefficient rho = 1.0,

The counter argument:
>My critics say that a rho = 1.0 cannot be established when the virtual
>short is caused by wave interference.
which they express NOT as a condition of the tank circuit, but of the
matching hardware.

>However, if Best's Eq 8 is
>valid,

You have acknowledge that experts in math whom you trust say it is
valid. This yields a paradox. By all the shifts in focus, it is
apparent that:
1. You are both right;
2. You are both wrong.
3. One of you is right, and one of you is wrong;
more likely given the drift of focus:
4. You are at cross purposes and arguing two different things.

>Now that I've narrowed the problem down, what do you believe is the
>answer?

You have not narrowed the problem down at all. It is composed of a
succession of premises that all have arguments for-and-against them.
This compounds the uncertainty. It also brings the hazard of any
single premise being rejected bringing down the entire goal you are
pursuing.

* * * * * * * * * * * * * * * * * * *

To put this bluntly, let's test the assertion repeated here:
>output of the tank circuit of the RF power amp.
>Being non-dissipative
>it cannot absorb the reflected power, so it must re-reflect it.

Odds are, you will lose support from at least half of the readership for this statement alone - and it isn't even in your written work that I've provided links for, and it certainly doesn't appear in Johnson. It is not discussed by the experts in math either. It is a flyer, a leap of faith whose validity is now emeshed with the outcome of another problematic discussion.

Steve's opinion:
>viz.
> "A total re-reflection of power at the match
> point is not necessary for the impedance
> match to occur."
offers NOTHING to the matter of non-dissipation.

Odds are, Steve could easily lose support from at least half of the readership for this statement alone. Unfortunately, that doesn't leverage your position one iota.

There are too many irons in the fire.

73's
Richard Clark, KB7QHC

1501. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 19:25:33 UTC
From: walt <walt@w2du.com>
Message-ID: <549ff3f7-a528-4c19-9c70-fd8fcffb2f6d@f2g2000yqh.googlegroups.com>
Source record: 4452

On Jun 14, 2:58 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 14 Jun 2011 11:26:41 -0700 (PDT), walt <w...@w2du.com> wrote:
>
> Hi Walt,
>
> The focus seems to have shifted away from the matching hardware
> previously described to:
>
> >What I'm really concerned about is the reflection coefficient at the
> >output of the tank circuit of the RF power amp.
>
> It includes a point argued by many, and which you make a condition of
> success for your argument:
>
> >Being non-dissipative
> >it cannot absorb the reflected power, so it must re-reflect it.
>
> Your argument now applied at two points, one not illustrated in your
> references (the source):
>
> >Therefore, my position is that its reflection coefficient rho = 1.0,
>
> The counter argument:>My critics say that a rho = 1.0 cannot be established when the
virtual
> >short is caused by wave interference.
>
> which they express NOT as a condition of the tank circuit, but of the
> matching hardware.
>
> >However, if Best's Eq 8 is
> >valid,
>
> You have acknowledge that experts in math whom you trust say it is
> valid. This yields a paradox. By all the shifts in focus, it is
> apparent that:
> 1. You are both right;
> 2. You are both wrong.
> 3. One of you is right, and one of you is wrong;
> more likely given the drift of focus:
> 4. You are at cross purposes and arguing two different things.
>
> >Now that I've narrowed the problem down, what do you believe is the
> >answer?
>

> You have not narrowed the problem down at all. It is composed of a
> succession of premises that all have arguments for-and-against them.
> This compounds the uncertainty. It also brings the hazard of any
> single premise being rejected bringing down the entire goal you are
> pursuing.
>
> * * * * * * * * * * * * * * * * * * *
>
> To put this bluntly, let's test the assertion repeated here:
>
> >output of the tank circuit of the RF power amp.
> >Being non-dissipative
> >it cannot absorb the reflected power, so it must re-reflect it.
>
> Odds are, you will lose support from at least half of the readership
> for this statement alone - and it isn't even in your written work that
> I've provided links for, and it certainly doesn't appear in Johnson.
> It is not discussed by the experts in math either. It is a flyer, a
> leap of faith whose validity is now emeshed with the outcome of
> another problematic discussion.
>
> Steve's opinion:>viz.
> >   "A total re-reflection of power at the match
> >   point is not necessary for the impedance
> >   match to occur."
>
> offers NOTHING to the matter of non-dissipation.
>
> Odds are, Steve could easily lose support from at least half of the
> readership for this statement alone. Unfortunately, that doesn't
> leverage your position one iota.
>
> There are too many irons in the fire.
>
> 73's
> Richard Clark, KB7QHC

Thank you for your insightful response, Richard. However, I must plod on, and introduce the results of my own measurements, the data of which appear in Chapter 19, Sec 19.14 of Reflections 3. Using a Kenwood TS-830S I measured the parameters required to prove the output source resistance of the tank circuit of its RF power amp is non-dissipative. The measurements also prove that the reflected power incident on its output is totally re-reflected. From reading an earlier post of yours, Richard, I know you have read this portion of Chapter 19, and you agreed with it. My measured data conflicts with Best's Eq 8, so there's got to be a valid answer to this dilemma, but where?

Walt

1502. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 19:53:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6kdfv65n2apm01m3031h5mf738s7gp8ne3@4ax.com>
Source record: 4453

On Tue, 14 Jun 2011 12:25:33 -0700 (PDT), walt <walt@w2du.com> wrote:

>Thank you for your insightful response, Richard. However, I must plod
>on, and introduce the results of my own measurements, the data of
>which appear in Chapter 19, Sec 19.14 of Reflections 3. Using a
>Kenwood TS-830S I measured the parameters required to prove the output
>source resistance of the tank circuit of its RF power amp is non-
>dissipative. The measurements also prove that the reflected power
>incident on its output is totally re-reflected. From reading an
>earlier post of yours, Richard, I know you have read this portion of
>Chapter 19, and you agreed with it. My measured data conflicts with
>Best's Eq 8, so there's got to be a valid answer to this dilemma, but
>where?
>
>Walt

Hi Walt,

Yes, I am very familiar with your bench work. I am very annoyed by those who trivialize it. I am further annoyed by those who patronize you to then shift the parameters to explain something else - completely abandoning you.

However, I also acknowledge that I can hurt your feelings about where I stand on these matters. Yes, to a limited degree, I do agree with much of your assessment, but I do not follow it into the arena of where you express it as being "non-dissipative."

However, my denying this proposition does NOT mean I dispute your other proposition of complete reflection. This cross connection of several topics is where things get overly complex and gives the entire discussion the appearance of a house of cards.

I cannot tell what your agenda is, but the material you quote as source, and for which I have provided links to in this thread - all seem a subtext to non-dissipative sources. Attention directed towards this pursuit of matching points rendered in stubs seems like tea leaf reading to resolve a larger issue.

As a student, tech, and engineer employing a LOT of precision waveguide technology, I am quite comfortable with the components and topologies you describe. Arguments for wave interferences being rendered into useful circuit constructs (that is, constructed on the basis of wave interference) has been with us easily since the early 40s. One component, the ATR tube, is one I have handled and replaced to insure the proper operation of RF paths being steered in

waveguides. One proviso, however => for any of these "virtualizations" to work, they require a physical (and dissipative) element as the initiator. Waves do not interfere without the presence of a physical element (often some form of detector, or minimally a load).

73's
Richard Clark, KB7QHC

1503. Re: AIM4170 Presentation -- open-wire feeder TDR scan

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 20:12:36 UTC
From: Baron <baron@linuxmaniac.net>
Message-ID: <it8f6m$6ik$1@dont-email.me>
Source record: 4454
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

HAGGIS KILT Inscribed thus:

2446 lines of "bla"
Plonk !

--
Best Regards:
Baron.

1504. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 21:18:53 UTC
From: walt <walt@w2du.com>
Message-ID: <f244fa80-1ce7-4bb9-a587-49a9905f3a0f@d14g2000yqb.googlegroups.com>
Source record: 4455

On Jun 14, 3:53 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 14 Jun 2011 12:25:33 -0700 (PDT), walt <w...@w2du.com> wrote:
> >Thank you for your insightful response, Richard. However, I must plod
> >on, and introduce the results of my own measurements, the data of
> >which appear in Chapter 19, Sec 19.14 of Reflections 3. Using a
> >Kenwood TS-830S I measured the parameters required to prove the output
> >source resistance of the tank circuit of its RF power amp is non-
> >dissipative. The measurements also prove that the reflected power
> >incident on its output is totally re-reflected. From reading an
> >earlier post of yours, Richard, I know you have read this portion of
> >Chapter 19, and you agreed with it. My measured data conflicts with
> >Best's Eq 8, so there's got to be a valid answer to this dilemma, but
> >where?
>
> >Walt
>
> Hi Walt,
>
> Yes, I am very familiar with your bench work. I am very annoyed by
> those who trivialize it. I am further annoyed by those who patronize
> you to then shift the parameters to explain something else -
> completely abandoning you.
>
> However, I also acknowledge that I can hurt your feelings about where
> I stand on these matters. Yes, to a limited degree, I do agree with
> much of your assessment, but I do not follow it into the arena of
> where you express it as being "non-dissipative."
>
> However, my denying this proposition does NOT mean I dispute your
> other proposition of complete reflection. This cross connection of
> several topics is where things get overly complex and gives the entire
> discussion the appearance of a house of cards.
>
> I cannot tell what your agenda is, but the material you quote as
> source, and for which I have provided links to in this thread - all
> seem a subtext to non-dissipative sources. Attention directed towards
> this pursuit of matching points rendered in stubs seems like tea leaf
> reading to resolve a larger issue.
>
> As a student, tech, and engineer employing a LOT of precision
> waveguide technology, I am quite comfortable with the components and
> topologies you describe. Arguments for wave interferences being
> rendered into useful circuit constructs (that is, constructed on the
> basis of wave interference) has been with us easily since the early

> 40s. One component, the ATR tube, is one I have handled and replaced
> to insure the proper operation of RF paths being steered in
> waveguides. One proviso, however => for any of these
> "virtualizations" to work, they require a physical (and dissipative)
> element as the initiator. Waves do not interfere without the presence
> of a physical element (often some form of detector, or minimally a
> load).
>
> 73's
> Richard Clark, KB7QHC

Thanks again Richard, for your insightful response. And goodness no, Richard, you won't hurt my feelings. I like being correct, but if I'm not I surely want to be told about it. This situation is no different.

However, if you're not following me on the 'non-dissipative' path, I'd like you to review the last portion of the TS-830S experiment, and follow the numbers. If you don't have that material in front of you, you can find it again on my web page at www.w2du.com. Click on 'Preview Chapters from Reflections 3', and then click on Chapter 19A, which is a part of Chapter 19 in the 3rd edition.

Observe that when the load impedance is changed from 50+j0 to the complex impedance 17.98 + j8.77 ohms, the plate current rose expectedly from 260ma to 290ma. This change occurred because the amp is now mismatched, and the pi-network is also detuned from resonance. The unwashed would conclude that the reflected power caused the increase in plate current. However, one will also observe that after the pi-network has been retuned and adjusted to again deliver all the available power into the otherwise 'mismatched' load (which is now matched to the source), the plate current went back to it's original value, 260ma. In addition, the amp returned to deliver 100w into the complex impedance at the line input, with the 30.6w of reflected power in the line, and adding to the 100w of source power, making 130.6w incident on the mismatched load, absorbing 100w and reflecting 30.6w.

IMHO, these data prove beyond doubt that the pi-network not only didn't absorb any of the reflected power, but totally re-reflected it. In my book this says the pi-network reflection coefficient rho = 1.0. How can anyone disagree with this?

Walt

1505. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-14 23:23:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6jofv6992iaj5j0lvoohe1hv6lqvmelto7@4ax.com>
Source record: 4456

On Tue, 14 Jun 2011 14:18:53 -0700 (PDT), walt <walt@w2du.com> wrote:

>Thanks again Richard, for your insightful response. And goodness no,
>Richard, you won't hurt my feelings. I like being correct, but if I'm
>not I surely want to be told about it. This situation is no different.
>
>However, if you're not following me on the 'non-dissipative' path, I'd
>like you to review the last portion of the TS-830S experiment, and
>follow the numbers. If you don't have that material in front of you,
>you can find it again on my web page at www.w2du.com. Click on
>'Preview Chapters from Reflections 3', and then click on Chapter 19A,
>which is a part of Chapter 19 in the 3rd edition.
>
>Observe that when the load impedance is changed from 50+j0 to the
>complex impedance 17.98 + j8.77 ohms, the plate current rose
>expectedly from 260ma to 290ma. This change occurred because the amp
>is now mismatched, and the pi-network is also detuned from resonance.
>The unwashed would conclude that the reflected power caused the
>increase in plate current. However, one will also observe that after
>the pi-network has been retuned and adjusted to again deliver all the
>available power into the otherwise 'mismatched' load (which is now
>matched to the source), the plate current went back to it's original
>value, 260ma. In addition, the amp returned to deliver 100w into the
>complex impedance at the line input, with the 30.6w of reflected power
>in the line, and adding to the 100w of source power, making 130.6w
>incident on the mismatched load, absorbing 100w and reflecting 30.6w.

Hi Walt,

There is absolutely NOTHING that I can dispute in your numbers or
method. However, as to "dissipation" this says nothing.

As for what it says about the reflection coefficient, I would agree
with you. However, the math and the math experts you speak of - they
are not answering the model we are examining above. You distracted
them with stubs and reflecting waves.

If you cast this agreement in the reflection coefficient back into
effects purported to exist in the matching with stubs model, we may
yet argue.

> IMHO, these data prove beyond doubt that the pi-network not only
>didn't absorb any of the reflected power, but totally re-reflected it.
>In my book this says the pi-network reflection coefficient rho = 1.0.
>How can anyone disagree with this?

*** Nothing further useful about the topic is to be found below ***

There is a curious side bar to this found at:
http://www.w5big.com/purchase4170c.htm
Observe the second data screen that purports to examine a mismatch through a length of both RG58 and RG59 terminated with 100 Ohms.

Of particular note is the distinct transition from the Zc of 50 Ohms to the Zc of 75 Ohms and the similarly distinct transition from the Zc of 75 Ohms to the termination R of 100 Ohms. Note that the transitions both span a distance of 2 feet. 2 feet is not insubstantial compared to connection technology that spans, probably, no more than one tenth that distance. Whence the extra 11 inches on both sides of the connection plane of either connection?

In the physics I've been studying for the past 10 years, near fields, this would not be unusual. In fact it would be expected. There is a transition zone (in waveguide design, there would be a taper or a sweep section to anticipate this and they would be physically large in terms of wavelength) not a transition cliff.

Similarly, at the connector to your TS-830S, there is a zone that surrounds it that only approximates the 50 Ohm which occurs (in the terms of this link's demonstration) some distance away, deep inside your TS-830S.

To me, dissipation inhabits this zone (certainly large enough for the tube and tank to occupy) and embraces the match with a complex addition of phases that could result in loss or even gain. This is also to say that I do not subscribe to dissipation being all about loss - especially when the hand of man is on the tuning knob instead of letting the chips fall where they may.

73's
Richard Clark, KB7QHC

1506. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-15 12:22:02 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <ita85b$55c$1@ra.nrl.navy.mil>
Source record: 4457

On 06/12/2011 03:05 PM, walt wrote:

>
> Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> yielding a 3:1 mismatch with a voltage reflection coefficient VoΩ½ equal
> to 0.5 at 0oΩ½. We want to place a stub on the line at the position
> relating to the unit-resistance circle on the Smith Chart. For a 3:1
> mismatch this position is exactly 30oΩ½ rearward from the load, and has
> a voltage reflection coefficient VoΩ½ equal to 0.5 at -60oΩ½. The
> normalized line resistance at this point is 1.1547 chart ohms, or
> 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> ohms.
>

Walt, I can only get your 1.0 - j1.1547 normalized impedance value (looking into the line towards the normalized load of 3.0) if I move 60 degrees, not 30, from the load towards the generator. I'm also assuming a lossless line. Sincerely, and 73s from N4GGO,

--
J. B. Wood e-mail: arl_123234@hotmail.com

1507. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-15 14:57:58 UTC
From: walt <walt@w2du.com>
Message-ID: <e53ad72d-41fd-4e53-abb6-217e3a84b4b4@16g2000yqy.googlegroups.com>
Source record: 4458

On Jun 15, 8:22 am, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 06/12/2011 03:05 PM, walt wrote:
>
>
>
> > Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> > yielding a 3:1 mismatch with a voltage reflection coefficient Vñ equal
> > to 0.5 at 0°. We want to place a stub on the line at the position
> > relating to the unit-resistance circle on the Smith Chart. For a 3:1
> > mismatch this position is exactly 30° rearward from the load, and has
> > a voltage reflection coefficient Vñ equal to 0.5 at -60°. The
> > normalized line resistance at this point is 1.1547 chart ohms, or
> > 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> > ohms.
>
> Walt, I can only get your 1.0 - j1.1547 normalized impedance value
>(looking into the line towards the normalized load of 3.0) if I move 60
> degrees, not 30, from the load towards the generator. I'm also assuming
> a lossless line. Sincerely, and 73s from N4GGO,
>
> --
> J. B. Wood   e-mail: arl_123...@hotmail.com

Hello JB, thank you for the response. I'm sure I understand what's
going on. When you view the Smith Chart at the unity resistance circle
with a 3:1 mismatch the normalized impedance there is 1.0 - j1.1547,
as you stated. However, a radius through that point yields a voltage
reflection coefficient rho = 0.5 @ -60°. In other words, the radial
line intersects the periphery of the Smith Chart at -60°.

As I'm sure you know, reflection degrees equals two electrical
degrees. Therefore, the normalized impedance 1.0 -j1.1547 ohms occurs
at 30° rearward of the load. That OK?

In the absence of a Smith Chart here's an easy way to determine the
reactance appearing at the unity resistance circle for any given
degree of mismatch:

1/(sqrt SWR/
SWR-1)

Walt, W2DU

1508. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-15 15:03:49 UTC
From: walt <walt@w2du.com>
Message-ID: <994bf18e-a9e2-4a45-ad82-1bdd3538aaa2@m10g2000yqd.googlegroups.com>
Source record: 4459

On Jun 15, 10:57 am, walt <w...@w2du.com> wrote:
> On Jun 15, 8:22 am, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
>
>
>
>
>
>
>
>
>
>
> > On 06/12/2011 03:05 PM, walt wrote:
>
> > > Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> > > yielding a 3:1 mismatch with a voltage reflection coefficient Vñ equal
> > > to 0.5 at 0°. We want to place a stub on the line at the position
> > > relating to the unit-resistance circle on the Smith Chart. For a 3:1
> > > mismatch this position is exactly 30° rearward from the load, and has
> > > a voltage reflection coefficient Vñ equal to 0.5 at -60°. The
> > > normalized line resistance at this point is 1.1547 chart ohms, or
> > > 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> > > ohms.
>
> > Walt, I can only get your 1.0 - j1.1547 normalized impedance value
> >(looking into the line towards the normalized load of 3.0) if I move 60
> > degrees, not 30, from the load towards the generator. I'm also assuming
> > a lossless line. Sincerely, and 73s from N4GGO,
>
> > --
> > J. B. Wood   e-mail: arl_123...@hotmail.com
>
> Hello JB, thank you for the response. I'm sure I understand what's
> going on. When you view the Smith Chart at the unity resistance circle
> with a 3:1 mismatch the normalized impedance there is 1.0 - j1.1547,
> as you stated. However, a radius through that point yields a voltage
> reflection coefficient rho = 0.5 @ -60°. In other words, the radial
> line intersects the periphery of the Smith Chart at -60°.
>
> As I'm sure you know, reflection degrees equals two electrical
> degrees. Therefore, the normalized impedance 1.0 -j1.1547 ohms occurs
> at 30° rearward of the load. That OK?
>
> In the absence of a Smith Chart here's an easy way to determine the
> reactance appearing at the unity resistance circle for any given

> degree of mismatch:
>
>   1/(sqrt SWR/
> SWR-1)
>
> Walt, W2DU

Fixing the equation: 1/(sqrt SWR/SWR-1)

Walt

1509. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-15 18:55:52 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <itav7palu1@ra.nrl.navy.mil>
Source record: 4460

On 06/15/2011 10:57 AM, walt wrote:

> As I'm sure you know, reflection degrees equals two electrical
> degrees. Therefore, the normalized impedance 1.0 -j1.1547 ohms occurs
> at 30ï¿½ rearward of the load. That OK?
>

Well, I'm not clear what you mean by "rearward of the load". At 60 degrees toward the generator the normalized impedance looking into the line is 1.0 - j1.1547 ohms and that corresponds to a reflection coefficient of -j1.1547/(2-j1.1547) or alternatively, 0.5 @ -60 degrees (sorry my char set doesn't do Steinmetz notation). So I think we're in agreement here. What more needs to be said? Now put in a shorted stub (of appropriate length at the desired frequency) in series to tune out (cancel) the reactive part of the line impedance. The combination of the series stub and the line will appear as 1.0 + j0 to the generator/source and the reflection coefficient is now 0. How could it be anything else (at the desired frequency) in this scenario? You don't need a discussion of travelling waves to arrive at the correct answer. The reflection coefficient corresponding to a normalized (say to 50 ohms) impedance zx = Zx/50 is rho = (zx - 1)/(zx +1). Clearly a values of rho = 1 + j0 or -1 + j0 correspond to a zx values of infinity (open circuit) or zero (short circuit), respectively.

You might want to think of the shorted line stub as inside one box and the transmission line + 150 ohm load in another black box. Let's assume someone hands you these two boxes and you have no idea what's inside but you do have access to set of terminals (input port) on each box from which you can measure steady-state impedance of each. At some frequency you find the normalized input impedance on one box is +j1.1547 ohms and on the other box at that same frequency it is 1.0 - j1.1547 ohms. Now you connect the boxes is series and measure the impedance of the series combination again at that frequency. The point I'm making here is that at the terminals of either of the boxes you measured the impedance at some frequency - it doesn't matter what's inside the box. (Of course the impedance behavior over a range of frequencies certainly is dependent on the circuit topology within the box.) Sincerely,

--
J. B. Wood e-mail: arl_123234@hotmail.com

1510. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-15 19:58:16 UTC
From: walt <walt@w2du.com>
Message-ID: <bd3a7994-4e46-41d1-950a-63b4b9158021@n11g2000yqf.googlegroups.com>
Source record: 4461

On Jun 15, 2:55 pm, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 06/15/2011 10:57 AM, walt wrote:
>
> > As I'm sure you know, reflection degrees equals two electrical
> > degrees. Therefore, the normalized impedance 1.0 -j1.1547 ohms occurs
> > at 30 rearward of the load. That OK?
>
> Well, I'm not clear what you mean by "rearward of the load". At 60
> degrees toward the generator the normalized impedance looking into the
> line is 1.0 - j1.1547 ohms and that corresponds to a reflection
> coefficient of -j1.1547/(2-j1.1547) or alternatively, 0.5 @ -60 degrees
> (sorry my char set doesn't do Steinmetz notation). So I think we're in
> agreement here. What more needs to be said? Now put in a shorted stub
> (of appropriate length at the desired frequency) in series to tune out
> (cancel) the reactive part of the line impedance. The combination of
> the series stub and the line will appear as 1.0 + j0 to the
> generator/source and the reflection coefficient is now 0. How could it
> be anything else (at the desired frequency) in this scenario? You don't
> need a discussion of travelling waves to arrive at the correct answer.
> The reflection coefficient corresponding to a normalized (say to 50
> ohms) impedance zx = Zx/50 is rho = (zx - 1)/(zx +1). Clearly a values
> of rho = 1 + j0 or -1 + j0 correspond to a zx values of infinity (open
> circuit) or zero (short circuit), respectively.
>
> You might want to think of the shorted line stub as inside one box and
> the transmission line + 150 ohm load in another black box. Let's assume
> someone hands you these two boxes and you have no idea what's inside but
> you do have access to set of terminals (input port) on each box from
> which you can measure steady-state impedance of each. At some frequency
> you find the normalized input impedance on one box is +j1.1547 ohms and
> on the other box at that same frequency it is 1.0 - j1.1547 ohms. Now
> you connect the boxes is series and measure the impedance of the series
> combination again at that frequency. The point I'm making here is that
> at the terminals of either of the boxes you measured the impedance at
> some frequency - it doesn't matter what's inside the box. (Of course
> the impedance behavior over a range of frequencies certainly is
> dependent on the circuit topology within the box.) Sincerely,
>
> --
> J. B. Wood   e-mail: arl_123...@hotmail.com

Thanks again for the response, JB. What I mean by rearward of the load
is simply going toward the source from the load. But are we in
agreement? We probably are as long as we agree on terminology

regarding the Smith Chart. The unity resistance circle for a 3:1 mismatch yields a normalized impedance of 1 - j1.1547 as you know. As I said in my previous post, a radial line passing through this point on the unity-resistance circle joins the periphery of the Chart at -60°. It important to note that this -60° is reflection degrees, which is two-times greater than degrees along the transmission line. Therefore, the normalized line impedance of 1 -j1.1547 appears at 30° from the load toward the source on the xmsn line, not at -60°. Hope we're in agreement on this.

Walt

1511. odd coax connector

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-17 13:33:31 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <U_SdncOHg6k2ymbQnZ2dnUVZ_qednZ2d@earthlink.com>
Source record: 4462

I found an adapter in my junk box that goes from a BNC to something similar to a male N type. It will not mate up to a female N connector.

A normal N male connector has the center that is just about even with the shell that screws onto the female end. This connector has the male part sticking out about 1/4 of an inch past the shell. It will fit the female N connector except when I go to screw them together, there is not enough threads to mate and make a good mechanical connection.

Anyone know what type of connector this is ?

1512. Re: odd coax connector

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-17 16:42:53 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <bc4e723b-daf2-4c4a-9d4e-7f2a5639dac8@q12g2000prb.googlegroups.com>
Source record: 4463

On Jun 17, 6:33 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> I found an adapter in my junk box that goes from a BNC to something similar
> to a male N type. It will not mate up to a female N connector.
>
> A normal N male connector has the center that is just about even with the
> shell that screws onto the female end. This connector has the male part
> sticking out about 1/4 of an inch past the shell. It will fit the female N
> connector except when I go to screw them together, there is not enough
> threads to mate and make a good mechanical connection.
>
> Anyone know what type of connector this is ?

Two suggestions come to mind. First, have you tried Pasternack's
connector identifier PDF (www.pasternack.com/pdf/catalog/
ConnectorIdentifier.pdf) or equivalent? Second, could it be a damaged
BNC-to-N? It seems strange to have the pin sticking out that far; it
would be inviting damage to the pin.

Cheers,
Tom

1513. Re: odd coax connector

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-17 17:30:14 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <ObWdncohWYK4EmbQnZ2dnUVZ_sGdnZ2d@earthlink.com>
Source record: 4464

"K7ITM" <k7itm@msn.com> wrote in message
news:bc4e723b-daf2-4c4a-9d4e-7f2a5639dac8@q12g2000prb.googlegroups.com...
On Jun 17, 6:33 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> I found an adapter in my junk box that goes from a BNC to something
> similar
> to a male N type. It will not mate up to a female N connector.
>
> A normal N male connector has the center that is just about even with the
> shell that screws onto the female end. This connector has the male part
> sticking out about 1/4 of an inch past the shell. It will fit the female N
> connector except when I go to screw them together, there is not enough
> threads to mate and make a good mechanical connection.
>
> Anyone know what type of connector this is ?

>Two suggestions come to mind. First, have you tried Pasternack's
>connector identifier PDF (www.pasternack.com/pdf/catalog/
>ConnectorIdentifier.pdf) or equivalent? Second, could it be a damaged
>BNC-to-N? It seems strange to have the pin sticking out that far; it
>would be inviting damage to the pin.

I have not seen that url. I did not see one like it there.

It could be dammaged. It is not just the center pin that is sticking out
past the threaded shell, but the whole inside part of what would be a normal
N connector. It will pass power, just the threads will not screw together.

1514. Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-17 19:33:18 UTC
From: Michael <mjd1966@verizon.net>
Message-ID: <faeac170-e7f6-4714-9512-6236b72d86b7@c26g2000vbq.googlegroups.com>
Source record: 4465

Hiya...
Newly minted “non technical” ham here :-)

Been a SW DX’er for many years and decided to get my ham ticket recently.

Now that I've decided on what to get for my first ham radio, (TS-590s) I'm moving on to deciding on an antenna. The goal will be DX'ing the ham bands with phone and eventually CW. I'm looking for an antenna set up that will work on 10 to 80 meters. Of course, multiple specific antennas would be an ideal, but that is not in the cards. I've had a few options in mind. All of course, would be coupled with an antenna tuner if the internal auto tuner on the radio cold not do the job.

1. Set up a butternut HF9V on a roof mount approx 30-35 feet above the ground with tuned radials. The problem being, the footprint of my roof is only 35' x 35'. With the antenna set up in the center of the roof, there will be only a max of 17" to string the radials outward. I'd have to "snake" them in order to fit and figure out how to secure them. Another draw back is that verticals tend to be noisy. Not to mention shelling out money for a roof mount set up and putting lag bolts in up there.

2. Set up a GAP Titan on a roof mount approx 30-35 feet up. No radials needed with that antenna, but I have been told/read that unless perfectly assembled, they don’t work as advertised. Again... Verticals can be a noisy and the set up time and cost.

3. Set up a Chameleon V11 or v12 vertical rigid diepole on a non conductive mast mounted to brackets on the side of the house with the feed point of the antenna being about 25 to 30 feet high. This antenna is advertised as a "dipole" and does not need any radial set up. There have only been a few reviews of this antenna. All are very favorable, but is it too good to be true??? A vertical mounted rigid antenna working with no radials even if it is being called a dipole ??? With this antenna, I’d be able to avoid having to use a roof mount. Just mast it to the side of the house high enough for the bottom pole to clear the roof. A simple install. Still… No idea at all how good this antenna is.

4. Go with a wire antenna. I had in mind using the Buckmaster off center fed diepole. The eight band 300 watt version has two pole lengths of 90' and 180' respectively. I had in mind hooking the center feed point to the apex height of the side of my house to a non conductive hook I can screw in up there. There is enough length of space on my lot to let both the long and short pole ends to extend out

and down in and inverted V. I'd secure the pole ends to the ground with plastic cord and non conductive ground spikes so that the receiving wire was still elevated 8 to 10" above the ground. The feed line would not go straight down from the apex. Since the top of the roof is right where the feed point would be secured, I'd pull the feed up and right on to the roof. From there, run it across the roof and down the other side of the house a few feet and right into the shack on the top floor on the other side of the house. The upside... No ground or radials needed, no expensive or troublesome set up, if need be I can take the thing down in fifteen minutes with no problems at all with just a small hook left on the side of the house. It would also be a more "quite" antenna vs. a vertical like the ones mentioned above. The down side... It would radiate well east and west, but not well off the poles north and south. Also... The very top of the antenna would not be elevated above the house, so about ten feet of each pole up top would be obscured on one side by the house.

I also thought about using my current short-wave listening antenna to transmit with, but I think I'd have to change the matching transformer. I've got an Inverted L with a 30" vertical length and 40" horizontal length. That receiving wire is stranded copper made specifically to be used as receiving wire. It is attached to a matching transformer (an ICE-180) that is mounted to the foundation of my house about two feet off the ground. That ICE-180 is in turn directly grounded to an 8 foot brass grounding rod. The feed line is 50 ohm coax that runs up the side of the house from the ICE-180 and into the shack. The ICE-180 is a "receive only" item and I don't think you can load it up.

Well... That's about it...

Any comments, advice or suggestions would be appreciated.

Thanx in advance.

Michael

1515. Re: odd coax connector

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 00:06:40 UTC
From: Johnno <vk2kc@yahoo.com.au>
Message-ID: <itgq6oktk1@dont-email.me>
Source record: 4466

That link didn't work, but is this the one you meant to publish?

http://www.pasternack.com/pdf/catalog/ConnectorIdentifier.pdf

73
John VK2KC

> Anyone know what type of connector this is ?

Two suggestions come to mind. First, have you tried Pasternack's
connector identifier PDF (www.pasternack.com/pdf/catalog/
ConnectorIdentifier.pdf) or equivalent? Second, could it be a damaged
BNC-to-N? It seems strange to have the pin sticking out that far; it
would be inviting damage to the pin.

Cheers,
Tom

1516. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 01:02:34 UTC
From: nm5k@wt.net
Message-ID: <60c48f96-6a4d-4eda-a66a-481d8d0826ae@glegroupsg2000goo.googlegroups.com>
Source record: 4467

On Friday, June 17, 2011 2:33:18 PM UTC-5, Michael wrote:

>
> 1. Set up a butternut HF9V on a roof mount approx 30-35 feet above the
> ground with tuned radials. The problem being, the footprint of my
> roof is only 35' x 35'. With the antenna set up in the center of the
> roof, there will be only a max of 17" to string the radials outward.
> I'd have to "snake" them in order to fit and figure out how to secure
> them. Another draw back is that verticals tend to be noisy. Not to
> mention shelling out money for a roof mount set up and putting lag
> bolts in up there.

It could work pretty well as far as verticals go,
but all the tuned radials will be a pain to deal with
for all bands. It would be easier to ground mount, but
of course, being the antenna is lower, the local space
wave on the higher bands will not be as strong as elevated.
But it will make little difference on the lower bands
as long as you plant the ground radials. One plus to the
ground mount, is the radials don't need to be tuned.
They can be any length and still help. Where as elevated,
untuned radials that are not in use are fairly useless.

>
> 2. Set up a GAP Titan on a roof mount approx 30-35 feet up. No
> radials needed with that antenna, but I have been told/read that
> unless perfectly assembled, they don’t work as advertised. Again...
> Verticals can be a noisy and the set up time and cost.

Never tried one. But it wouldn't be in my cards if I
were in your position. Also, verticals are no noisier
than any other antenna. It just depends on the polarization
of the noise signal. Noise is RF just like any other signal,
and follows the same rules.

>
> 3. Set up a Chameleon V11 or v12 vertical rigid diepole on a non
> conductive mast mounted to brackets on the side of the house with the
> feed point of the antenna being about 25 to 30 feet high. This antenna
> is advertised as a "dipole" and does not need any radial set up. There
> have only been a few reviews of this antenna. All are very favorable,
> but is it too good to be true??? A vertical mounted rigid antenna
> working with no radials even if it is being called a dipole ??? With
> this antenna, I’d be able to avoid having to use a roof mount. Just
> mast it to the side of the house high enough for the bottom pole to
> clear the roof. A simple install. Still… No idea at all how good

> this antenna is.

New one on me.. Never have seen one.. Sounds like a
typical half wave design..

>
> 4. Go with a wire antenna. I had in mind using the Buckmaster off
> center fed diepole.

I'm not a fan of off center fed dipoles.
But overall, I think a wire antenna is your best
choice if you want a decent NVIS signal on the
lower bands.
But... I would use a center fed dipole.
If you require all bands, I would use the
largest dipole you can squeeze in, preferably
80m size, "60-65 feet per leg", and feed it
with ladder line, and using a tuner at the rig.

Myself, I prefer parallel coax fed dipoles, but
I usually don't run every single band.
IE: I have 80 and 40 dipoles on the same coax
feed. I'm on one of those bands 90 percent of the
time. I can slap a tuner inline if I want to
work one of the other bands. Some loss, with it
still usually works well enough to talk.
>
> I also thought about using my current short-wave listening antenna to
> transmit with, but I think I'd have to change the matching
> transformer. I've got an Inverted L with a 30" vertical length and
> 40" horizontal length. That receiving wire is stranded copper made
> specifically to be used as receiving wire. It is attached to a
> matching transformer (an ICE-180) that is mounted to the foundation of
> my house about two feet off the ground. That ICE-180 is in turn
> directly grounded to an 8 foot brass grounding rod. The feed line is
> 50 ohm coax that runs up the side of the house from the ICE-180 and
> into the shack. The ICE-180 is a "receive only" item and I don't think
> you can load it up.

An inverted L can work fairly well in some cases,
but you would need to rework the feed system to
transmit. And a ladder line fed dipole would probably
outplay it anyway for most all bands.

>

Anyway, my vote is ladder line fed dipole for all
bands 80-10. Will need a tuner though.. Or use Cecils's
tunerless method with cut feed line lengths.

1517. Re: NVIS and VHF? Solved!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 01:03:05 UTC
From: 'Captain' Kirk DeHaan <captkirk@ncc-1701a.net>
Message-ID: <rKudnUdhscPRZGbQnZ2dnUVZ_uGdnZ2d@posted.localnet>
Source record: 4468

'Captain' Kirk DeHaan said the following on 5/22/2011 11:04 AM:
> I'm living in a wooded area and am trying to hit our club repeater
> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
> a lot of trees, mostly poplars, in the direct path. I would have a line
> of sight if not for the trees as I'm up enough in altitude. I can cut
> the trees, they're mine, but finding the right ones is difficult and i
> don't want to waste the whole grove.
>
> I go from keying the repeater with no intelligible signal to not being
> able to hit it. Today I actually have an S meter reading due to the
> clouds. I am currently using a J-pole and will put up a Yagi soon but
> wonder if NVIS would work on 2m? I have only seen references to it being
> applied in HF.
>
> 'Captain' Kirk DeHaan
> N6SXR

I purchased a 10 element 2m Yagi and installed it today. I can now hit
the repeater in question full quieting. The other benefit is I can hit
the one other repeater that I could not even hear before. I am quite
happy now. :-) Now I don't have to cut down any more trees, other than
those I am selling.

Thanks for all the input from everyone. Problem is solved!

--
'Captain' Kirk DeHaan
N6SXR

"Beam me up Scotty, there's no intelligent life here"

1518. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 01:38:45 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <b52572ae-a4ae-4e11-bedf-b72e913ec3ca@glegroupsg2000goo.googlegroups.com>
Source record: 4469

Hello Walt,

On Monday, 13 June 2011 05:05:50 UTC+10, walt wrote:
> I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> transmission lines.This is not a trick question. This is a straight-
> forward question for which I 'm dead serious. The answer will involve
> a resulting reflection coefficient.
>
> Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> yielding a 3:1 mismatch with a voltage reflection coefficient Vρ equal
> to 0.5 at 0°. We want to place a stub on the line at the position
> relating to the unit-resistance circle on the Smith Chart. For a 3:1
> mismatch this position is exactly 30° rearward from the load, and has
> a voltage reflection coefficient Vρ equal to 0.5 at -60°. The
> normalized line resistance at this point is 1.1547 chart ohms, or

This is wrong...

> 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> ohms.

as your know!

>
> Placing a short-circuited stub having an inductive reactance of
> +j57.735 ohms on the line cancels the line reactance, establishing a
> new line impedance at this matching point of 50 + j0. However, a lot
> more is involved than just canceling the reactances to establish the
> impedance match.

This is vintage "Reflections" stuff Walt, where you try to explain what is happening with one foot in the time domain and the other in the frequency domain.

> To begin, the stub generates a new, secondary,
> canceling reflection that cancels the primary reflected wave generated
> by the mismatched line termination.

I can see you heading to re-re-reflections etc.

Thing is that in the steady state (and your Smith chart works ONLY in the steady state), the reflection on the first mentioned (lossless) line (with the 150 ohm load) is determined entirely by its characteristic impedance and the load impedance. The ratio of V/I looking into that line section is given by those parameters and line electrical length.

Sounds boring, but the reflection on the second mentioned (lossless) line (with s/c termination) is determined entirely by its characteristic impedance and the load impedance. The ratio of V/I looking into that line section is given by those parameters and

line electrical length.

The ratio of V/I at the node where both lines are joined is given for a shunt stub by the inverse of the sum of the inverses of V/I for each.

You can think about reflections from on line entering the other, and energy sloshing around, but the Smith chart is not going to help you because is is simply a graphic computer for finding Gamma, calculating Gamma along the line, adding B, G etc by following lines of constant G, B etc.

If we tried to explain the common microwave three screw tuner using re-reflections, virtual open circuits to rearward traveling waves, conjugate mirrors etc, total re-reflection etc, we would complicate something that is easily explained using a Smith chart (and the underlying maths - The Telegrapher's Equation) and quite conventional AC circuit theory.

In fact, a three stub tuner with practical (ie lossy) lines can be explained fairly easily using a Smith chart, even if a little fiddly iteration is needed to deal with lossy elements.

If the total re-reflection etc concepts are hard to translate from mental models to mathematical expressions for simple scenarios, they become near impossible for more complicated topologies and 'real' components.

Owen

1519. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 02:25:53 UTC
From: Michael <mjd1966@verizon.net>
Message-ID: <53b7b7a2-e571-427a-9aab-2f8a8f179b7e@k13g2000vbv.googlegroups.com>
Source record: 4470

On Jun 17, 9:02 pm, n...@wt.net wrote:
> On Friday, June 17, 2011 2:33:18 PM UTC-5, Michael wrote:
>
> > 1. Set up a butternut HF9V on a roof mount approx 30-35 feet above the
> > ground with tuned radials. The problem being, the footprint of my
> > roof is only 35' x 35'. With the antenna set up in the center of the
> > roof, there will be only a max of 17" to string the radials outward.
> > I'd have to "snake" them in order to fit and figure out how to secure
> > them. Another draw back is that verticals tend to be noisy. Not to
> > mention shelling out money for a roof mount set up and putting lag
> > bolts in up there.
>
> It could work pretty well as far as verticals go,
> but all the tuned radials will be a pain to deal with
> for all bands. It would be easier to ground mount, but
> of course, being the antenna is lower, the local space
> wave on the higher bands will not be as strong as elevated.
> But it will make little difference on the lower bands
> as long as you plant the ground radials. One plus to the
> ground mount, is the radials don't need to be tuned.
> They can be any length and still help. Where as elevated,
> untuned radials that are not in use are fairly useless.
>
>
>
> > 2. Set up a GAP Titan on a roof mount approx 30-35 feet up. No
> > radials needed with that antenna, but I have been told/read that
> > unless perfectly assembled, they don’t work as advertised. Again...
> > Verticals can be a noisy and the set up time and cost.
>
> Never tried one. But it wouldn't be in my cards if I
> were in your position. Also, verticals are no noisier
> than any other antenna. It just depends on the polarization
> of the noise signal. Noise is RF just like any other signal,
> and follows the same rules.
>
>
>
> > 3. Set up a Chameleon V11 or v12 vertical rigid diepole on a non
> > conductive mast mounted to brackets on the side of the house with the
> > feed point of the antenna being about 25 to 30 feet high. This antenna
> > is advertised as a "dipole" and does not need any radial set up. There
> > have only been a few reviews of this antenna. All are very favorable,
> > but is it too good to be true??? A vertical mounted rigid antenna

> > working with no radials even if it is being called a dipole ??? With
> > this antenna, I'd be able to avoid having to use a roof mount. Just
> > mast it to the side of the house high enough for the bottom pole to
> > clear the roof. A simple install. Still… No idea at all how good
> > this antenna is.
>
> New one on me.. Never have seen one.. Sounds like a
> typical half wave design..
>
>
>
> > 4. Go with a wire antenna. I had in mind using the Buckmaster off
> > center fed diepole.
>
> I'm not a fan of off center fed dipoles.
> But overall, I think a wire antenna is your best
> choice if you want a decent NVIS signal on the
> lower bands.
> But... I would use a center fed dipole.
> If you require all bands, I would use the
> largest dipole you can squeeze in, preferably
> 80m size, "60-65 feet per leg", and feed it
> with ladder line, and using a tuner at the rig.
>
> Myself, I prefer parallel coax fed dipoles, but
> I usually don't run every single band.
> IE: I have 80 and 40 dipoles on the same coax
> feed. I'm on one of those bands 90 percent of the
> time. I can slap a tuner inline if I want to
> work one of the other bands. Some loss, with it
> still usually works well enough to talk.
>
>
>
> > I also thought about using my current short-wave listening antenna to
> > transmit with, but I think I'd have to change the matching
> > transformer. I've got an Inverted L with a 30" vertical length and
> > 40" horizontal length. That receiving wire is stranded copper made
> > specifically to be used as receiving wire. It is attached to a
> > matching transformer (an ICE-180) that is mounted to the foundation of
> > my house about two feet off the ground. That ICE-180 is in turn
> > directly grounded to an 8 foot brass grounding rod. The feed line is
> > 50 ohm coax that runs up the side of the house from the ICE-180 and
> > into the shack. The ICE-180 is a "receive only" item and I don't think
> > you can load it up.
>
> An inverted L can work fairly well in some cases,
> but you would need to rework the feed system to
> transmit. And a ladder line fed dipole would probably
> outplay it anyway for most all bands.

>
>
>
> Anyway, my vote is ladder line fed dipole for all
> bands 80-10. Will need a tuner though.. Or use Cecils's
> tunerless method with cut feed line lengths.

Thanx for the response... I myself and leaning the way of the wire die
pole. It appears to be not only the most economical solution, it will
probably give the best results. i also did consider a ground mounted
43 foot DXE Thundebolt MBVA 1UP

1520. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 02:32:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bda89d29-72d5-4be8-ab60-f9acb574bb19@16g2000yqy.googlegroups.com>
Source record: 4471

> My critics say that a rho = 1.0 cannot be established when the virtual
> short is caused by wave interference.

A reflection is what happens to a single wave at an impedance discontinuity. The redistribution of energy associated with interference is technically not a reflection since it involves the superposition of two (or more) waves. As a result, reflection mechanics cannot be used to explain interference effects. The "virtual short" is the *result* of the combination of physical reflections plus conditions associated with interference, i.e. the "virtual short" is not the *cause* of anything - it is the *result* of reflections plus interference.

Most people deal only with reflected voltages where the interference is transparent. When we start dealing with reflected power, interference is NOT transparent as it must be recognized to be able to track the energy through the system.

If we superpose two identical waves of 100 volt at zero degrees, we obviously get 200 volts at zero degrees. However, when we recognize that in a 50 ohm environment some distance away from any source, we have taken two 200 watt waves and created a single 800 watt wave, the question arises: Where did the extra 400 watts come from? The answer is from constructive interference which requires 400 watts of destructive interference in the opposite direction in order to satisfy the conservation of energy principle. When interference is involved the virtual power reflection coefficient may not be the square of the physical voltage reflection coefficient.
--
73, Cecil, w5dxp.com

1521. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 03:30:35 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <VL6dnTqsre9DhmHQnZ2dnUVZ_qqdnZ2d@bright.net>
Source record: 4472

"Michael" wrote in message
news:faeac170-e7f6-4714-9512-6236b72d86b7@c26g2000vbq.googlegroups.com...

Hiya...
Newly minted ï¿½non technicalï¿½ ham here :-)

Been a SW DXï¿½er for many years and decided to get my ham ticket
recently.

Now that I've decided on what to get for my first ham radio, (TS-590s)
I'm moving on to deciding on an antenna. The goal will be DX'ing the
ham bands with phone and eventually CW. I'm looking for an antenna set
up that will work on 10 to 80 meters. Of course, multiple specific
antennas would be an ideal, but that is not in the cards. I've had a
few options in mind. All of course, would be coupled with an antenna
tuner if the internal auto tuner on the radio cold not do the job.

Any comments, advice or suggestions would be appreciated.

Thanx in advance.

Michael

Dear Michael: Let us know your call-sign when it arrives.
I too recommend a wire dipole with equal lengths of wire each side of a
ladder-line feed. Avoid the use of so called 4:1 whatever. Consider
finding a 275 Watt Matchbox (a larger item also exists). It is ideal for
efficiently coupling energy from a coax transmitter to ladder-line fed
dipole.

Work on mastering CW as that may be the most effective way to make DX
contacts with low power and a low antenna.

Enjoy. 73, Mac N8TT

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

1522. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 13:41:29 UTC
From: Colin <bdsnooks@netzero.net>
Message-ID: <iti9tv$6ds$1@adenine.netfront.net>
Source record: 4473

<<<<SNIP>>>>

Hi Michael,

Good advice you've received. However----if you're a newly licensed
Technician, remember the band plans and don't run afoul in the HF bands---

73

Colin

--- Posted via news://freenews.netfront.net/ - Complaints to news@netfront.net ---

1523. Re: Need Antenna Advise...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 14:15:16 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <c7bpv6p9ag0leefstnf85jno6kvmh6df70@4ax.com>
Source record: 4474

On Fri, 17 Jun 2011 11:53:09 -0700 (PDT), Michael
<mjd1966@verizon.net> wrote:

>Hiya...
>
>Non technical newly minted ham here :-)
>
>Now that I've decided on what to get for my first ham radio,
>(TS-590s)
>I'm moving on to deciding on an antenna.
>
>The goal will be DX'ing the ham bands with phone and eventually CW.
>I'm looking for an antenna set up that will work on 10 to 80 meters.
>Of course, multiple specific antennas would be an ideal, but that is
>not in the cards.
>
>I've had a few options in mind. All of course, would be coupled with
>an antenna tuner if the internal auto tuner on the radio cold not do
>the job.
>

The first antenna you buy or build will be a disappointment.

Bigger is always better than smaller with an antenna. We all
eventually learn that.

A multi band antenna is like a Swiss Army Knife. (I use both!) They
are very handy, but it is always easy to find a better solution to the
task at hand.

Cautiously imitate the success of others before you get too serious
about innovating. There are reasons why some antennas or equipment are
or are not popular.

Locally here in Central North Carolina the recommendation to new Hams
is what is known as the G5RV antenna. There are a lot of respected
vendors who offer G5RV's at competitive prices. You will need some
kind of tuner sooner or later.

Get on the air! Find out what direction you really want to go.

1524. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 14:51:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <73625cbb-e895-48c3-8c23-4a38e61952ac@m24g2000yqc.googlegroups.com>
Source record: 4475

On Jun 17, 9:32 pm, Cecil Moore <w5...@hotmail.com> wrote:
> When interference is involved
> the virtual power reflection coefficient may not be the square of the
> physical voltage reflection coefficient.

Let me try an example in ASCII to see if it can work.

--50 ohm--+--1/2WL 291.3 ohms--50 ohms

Given: The steady-state forward power, Pfwd1, on the 50 ohm line is 200 watts. The steady-state reflected power, Pref1, on the 50 ohm line is zero watts. 200 watts of steady-state power is delivered to the 50 ohm load. The power reflection coefficient, rho^2, is 0.5 at point 'x' and at the load. The power transmission coefficient, 1-rho^2, is 0.5 at point 'x' and at the load.

The steady-state incident forward power, Pfwd2, at the 50 ohm load is 200/0.5=400 watts. The steady state reflected power, Pref2, at the load is 400(0.5)=200 watts.

There are four superposition components:

1. The component power reflected from point 'x' back toward the source is Pfwd1(rho^2)=200(0.5)=100w.

2. The component power transmitted through point 'x' in the direction of the source is Pref2(1-rho^2)=200(0.5)=100w.

The fields of these two component waves are 180 degrees out of phase and they are equal in amplitude so they cancel to zero. Note that Pref1=zero. This is 200 watts of total destructive interference. The conservation of energy principle says that, in the absence of a nearby source (which this is), any destructive interference must be offset by constructive interference in a different direction. In a transmission line, there are only two directions, i.e. destructive interference in the direction of the source must necessarily be offset by an equal magnitude of constructive interference toward the load. That's exactly how Z0-matches function from an energy standpoint. Addition of EM wave powers are accomplished by the irradiance equation from the field of optics.

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(A)

where A is the angle between the two electric fields associated with the two waves.

Pref1 = 100w + 100w - 200w = 0, where the -200w is destructive interference (negative sign).

3. The component power transmitted through point 'x' in the direction of the load is Pfwd1(1-rho^2)=200(0.5)=100w.

4. The component power reflected from point 'x' back toward the load is Pref2(rho^2)=200(0.5)=100w.

The fields of these two component waves are in phase and they are equal in amplitude so they add to double the voltage and current magnitudes. When we double both the voltages and currents, we multiply the power by a factor of four. Thus, two 100 watt waves result in a single 400 watt wave when they engage in total constructive interference as they do in the above example.

Pfor2 = 100w + 100w + 200w = 400w, where the +200w is constructive interference (positive sign).

|destructive interference| = |constructive interference| and all is well with the conservation of energy principle.

Note that the physical power reflection coefficient is 0.5 everywhere. However, Pref1/Pfwd1=0, i.e. the virtual power reflection coefficient is zero (same as the single-port reflection coefficient).

All of the power reflected from the load, Pref2, is redistributed back toward the load at point 'x', i.e. the virtual short, virtual power reflection coefficient is 1.0 even though the physical power reflection coefficient is 0.5 at point 'x', i.e. A single-port analysis yields a power reflection coefficient of 1.0 looking back into point 'x'.

Walt is obviously using a single-port analysis where *everything is virtual*. Impedances are V/I ratios, not actual devices. Thus the Pref/Pfwd power ratios are virtual. The difference between reflected energy and interference energy is the difference between real-world reflection coefficients based on real-world impedance discontinuities and virtual reflection coefficients based on V/I ratios and Pref/Pfwd ratios.

Walt, here is my humble opinion of what the problem is:

1. You are considering that virtual impedances and virtual reflection coefficients exist in reality to the point that they can be the cause of something. IMO, everything virtual is a result, not a cause. That's why it is called "virtual".

2. You are considering the redistribution of reflected power back toward the load to be 100% caused by reflections governed by reflection mechanics. IMO, that is OK for a voltage analysis, where energy considerations are completely transparent, but definitely NOT for a power analysis. When power is being considered, the difference between reflected energy and interference energy MUST be taken into account because INTERFERENCE ENERGY DOES NOT OBEY THE RULES OF REFLECTION MECHANICS. It obeys the rules of interference mechanics.

3. The assumption that all sources are non-dissipative is a convention that I was taught in college. My professor emphasized that it is a *convention*, convenient for analysis, but not necessarily true in reality. Thus it is assumed that any reflected power that is absorbed by the source was never generated in the first place. But that is a *convention* to make the math easier and not necessarily what happens in reality.

4. The V/I ratio that is your mismatched source impedance is indeed non-dissipative but is most likely a combination of reflections and interference caused by reflected energy flowing into the source and superposing with the generated wave. IT IS SIMPLY IMPOSSIBLE FOR REFLECTED ENERGY TO SIMULTANEOUSLY BE THE CAUSE OF A VIRTUAL SOURCE IMPEDANCE WHILE BEING RE-REFLECTED FROM THE SOURCE TERMINAL, i.e. it cannot be used at the same time for two completely different purposes at two different locations. Somewhere back inside the source, it is likely that dissipation of reflected energy is occurring in any mismatched system.

I have said this before and it fell on deaf ears. Since RF energy cannot travel faster than the speed of light, the only way that a source can know the value of its load impedance is in the form of feedback of *reflected energy* from the load, i.e. unless the load impedance is equal to the source impedance, REFLECTED ENERGY MUST NECESSARILY BE FLOWING INSIDE THE SOURCE FOR THE SOURCE TO DETECT THE VALUE OF ITS LOAD IMPEDANCE. The reason for confusion about this subject is that the lumped circuit model presumes instantaneous, faster than light speed, throughout the universe. This faster than light concept is set in concrete brains throughout the RF engineering world. It is indeed strange that RF engineers using the lumped circuit model, don't realize that it takes about one ns for a source to detect a load that is six inches away. The V/I ratio from the source changes after one ns when the first reflected energy arrives. The source has absolutely no way of detecting its load impedance until the first reflected energy arrives. Any other concept is just magical thinking about the real world.

Here is a special case example where all of the steady-state reflected power is dissipated in the source resistor. This particular source was presented by w7el in his food-for-thought series.

http://www.w5dxp.com/nointfr.htm
--
73, Cecil, w5dxp.com

1525. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 15:49:09 UTC
From: walt <walt@w2du.com>
Message-ID: <b458ba23-9e8e-4d5c-8586-732bc4206237@z37g2000vbl.googlegroups.com>
Source record: 4476

On Jun 17, 9:38 pm, Owen Duffy <o...@owenduffy.net> wrote:
> Hello Walt,
>
> On Monday, 13 June 2011 05:05:50 UTC+10, walt wrote:
> > I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> > transmission lines.This is not a trick question. This is a straight-
> > forward question for which I 'm dead serious. The answer will involve
> > a resulting reflection coefficient.
>
> > Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> > yielding a 3:1 mismatch with a voltage reflection coefficient Vρ equal
> > to 0.5 at 0°. We want to place a stub on the line at the position
> > relating to the unit-resistance circle on the Smith Chart. For a 3:1
> > mismatch this position is exactly 30° rearward from the load, and has
> > a voltage reflection coefficient Vρ equal to 0.5 at -60°. The
> > normalized line resistance at this point is 1.1547 chart ohms, or
>
> This is wrong...

Sorry Owen, my data above that you say is wrong is not wrong. I'm absolutely astounded that you would say so. You have misconstrued my data to make such an assertion. I calculated the data and then plotted it on the Smith Chart, which verified the data as correct.

So that other readers will understand how I calculated the data I'll begin with the 150-ohm load terminating the 50-ohm line, yielding a normalized impedance of Z = 3 + j0. Moving along the line toward the source the line impedance changes, arriving at a point where normalized line impedance is 1 - jX. The reactance X is determined by the SWR on the line which is 3:1. jX = 1/(sqrt SWR/ SWR - 1), which yields jX = -1.1547 ohms. This value of jX is verified by drawing a radial of 3:1 SWR to intersect the unit-resistance circle on the Smith Chart. By inserting an inductive reactance jX = +1.1547 ohms in series with the line at this point cancels the line reactance, making the normalized line impedance 1 + j0, where it was previously 1 - j1.1547.

Inserting the inductive reactance at that point causes a discontinuity in the line that generates a second reflection, a canceling reflection that cancels the primary reflection, thus establishing an impedance match at that point.

Now where is the impedance-matching point on the line? First we find the voltage reflection coefficient of the normalized impedance at that point, which is rho = (Zo - Zx)/(Zo + Zx) = 0.25 - j0.43301, which

when converted to polar form, rho = 0.50 @ -60°. Extending the radius through the 3:1 point on the unity-resistance circle on to the periphery of the Smith Chart, it lands on the -60° point, which again confirms the validity of my data that you assert is wrong.

> This is vintage "Reflections" stuff Walt, where you try to explain what is happening with one foot in the time domain and the other in the frequency domain.
>
> > To begin, the stub generates a new, secondary,
> > canceling reflection that cancels the primary reflected wave generated
> > by the mismatched line termination.
>
> I can see you heading to re-re-reflections etc.

Owen, you are a brilliant and an excellent lecturer. But I don't believe I need a lecture on impedance matching with transmission lines. So just on one point, where have I inferred that I was not working in the steady state?

Walt, W2DU

> Thing is that in the steady state (and your Smith chart works ONLY in the steady state), the reflection on the first mentioned (lossless) line (with the 150 ohm load) is determined entirely by its characteristic impedance and the load impedance. The ratio of V/I looking into that line section is given by those parameters and line electrical length.
>
> Sounds boring, but the reflection on the second mentioned (lossless) line (with s/c termination) is determined entirely by its characteristic impedance and the load impedance. The ratio of V/I looking into that line section is given by those parameters and line electrical length.
>
> The ratio of V/I at the node where both lines are joined is given for a shunt stub by the inverse of the sum of the inverses of V/I for each.
>
> You can think about reflections from on line entering the other, and energy sloshing around, but the Smith chart is not going to help you because is is simply a graphic computer for finding Gamma, calculating Gamma along the line, adding B, G etc by following lines of constant G, B etc.
>
> If we tried to explain the common microwave three screw tuner using re-reflections, virtual open circuits to rearward traveling waves, conjugate mirrors etc, total re-reflection etc, we would complicate something that is easily explained using a Smith chart (and the underlying maths - The Telegrapher's Equation) and quite conventional AC circuit theory.
>
> In fact, a three stub tuner with practical (ie lossy) lines can be explained fairly easily using a Smith chart, even if a little fiddly iteration is needed to deal with lossy elements.
>
> If the total re-reflection etc concepts are hard to translate from mental models to mathematical expressions for simple scenarios, they become near impossible for more

complicated topologies and 'real' components.
>
> Owen

1526. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 16:05:36 UTC
From: walt <walt@w2du.com>
Message-ID: <c40e2651-f5f7-4147-875e-4dd813f91ee8@d14g2000yqb.googlegroups.com>
Source record: 4477

On Jun 18, 11:49 am, walt <w...@w2du.com> wrote:
> On Jun 17, 9:38 pm, Owen Duffy <o...@owenduffy.net> wrote:
>
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>
> > Hello Walt,
>
> > On Monday, 13 June 2011 05:05:50 UTC+10, walt wrote:
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> > > transmission lines.This is not a trick question. This is a straight-
> > > forward question for which I 'm dead serious. The answer will involve
> > > a resulting reflection coefficient.
>
> > > Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> > > yielding a 3:1 mismatch with a voltage reflection coefficient Vρ equal
> > > to 0.5 at 0°. We want to place a stub on the line at the position
> > > relating to the unit-resistance circle on the Smith Chart. For a 3:1
> > > mismatch this position is exactly 30° rearward from the load, and has
> > > a voltage reflection coefficient Vρ equal to 0.5 at -60°. The
> > > normalized line resistance at this point is 1.1547 chart ohms, or
>
> > This is wrong...
>
> Sorry Owen, my data above that you say is wrong is not wrong. I'm
> absolutely astounded that you would say so. You have misconstrued my
> data to make such an assertion. I calculated the data and then plotted
> it on the Smith Chart, which verified the data as correct.
>
> So that other readers will understand how I calculated the data I'll
> begin with the 150-ohm load terminating the 50-ohm line, yielding a
> normalized impedance of Z = 3 + j0. Moving along the line toward the
> source the line impedance changes, arriving at a point where
> normalized line impedance is 1 - jX. The reactance X is determined by
> the SWR on the line which is 3:1. jX = 1/(sqrt SWR/ SWR - 1), which
> yields jX = -1.1547 ohms. This value of jX is verified by drawing a
> radial of 3:1 SWR to intersect the unit-resistance circle on the Smith
> Chart. By inserting an inductive reactance jX = +1.1547 ohms in series

> with the line at this point cancels the line reactance, making the
> normalized line impedance 1 + j0, where it was previously 1 -
> j1.1547.
>
> Inserting the inductive reactance at that point causes a discontinuity
> in the line that generates a second reflection, a canceling reflection
> that cancels the primary reflection, thus establishing an impedance
> match at that point.
>
> Now where is the impedance-matching point on the line? First we find
> the voltage reflection coefficient of the normalized impedance at that
> point, which is rho = (Zo - Zx)/(Zo + Zx) = 0.25 - j0.43301, which
> when converted to polar form, rho = 0.50 @ -60°. Extending the radius
> through the 3:1 point on the unity-resistance circle on to the
> periphery of the Smith Chart, it lands on the -60° point, which again
> confirms the validity of my data that you assert is wrong.
>
> > This is vintage "Reflections" stuff Walt, where you try to explain what is happening with one foot in the time domain and the other in the frequency domain.
>
> > > To begin, the stub generates a new, secondary,
> > > canceling reflection that cancels the primary reflected wave generated
> > > by the mismatched line termination.
>
> > I can see you heading to re-re-reflections etc.
>
> Owen, you are a brilliant and an excellent lecturer. But I don't
> believe I need a lecture on impedance matching with transmission
> lines. So just on one point, where have I inferred that I was not
> working in the steady state?
>
> Walt, W2DU
>
>
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>
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>
>
> > Thing is that in the steady state (and your Smith chart works ONLY in the steady state), the reflection on the first mentioned (lossless) line (with the 150 ohm load) is determined entirely by its characteristic impedance and the load impedance. The ratio of V/I looking into that line section is given by those parameters and line electrical length.
>
> > Sounds boring, but the reflection on the second mentioned (lossless) line (with s/c termination) is determined entirely by its characteristic impedance and the load impedance. The ratio of V/I looking into that line section is given by those parameters and line electrical length.
>
> > The ratio of V/I at the node where both lines are joined is given for a shunt stub by the inverse of the sum of the inverses of V/I for each.

>
> > You can think about reflections from on line entering the other, and energy sloshing around, but the Smith chart is not going to help you because is is simply a graphic computer for finding Gamma, calculating Gamma along the line, adding B, G etc by following lines of constant G, B etc.
>
> > If we tried to explain the common microwave three screw tuner using re-reflections, virtual open circuits to rearward traveling waves, conjugate mirrors etc, total re-reflection etc, we would complicate something that is easily explained using a Smith chart (and the underlying maths - The Telegrapher's Equation) and quite conventional AC circuit theory.
>
> > In fact, a three stub tuner with practical (ie lossy) lines can be explained fairly easily using a Smith chart, even if a little fiddly iteration is needed to deal with lossy elements.
>
> > If the total re-reflection etc concepts are hard to translate from mental models to mathematical expressions for simple scenarios, they become near impossible for more complicated topologies and 'real' components.
>
> > Owen

I forgot to mention in the above post that the -60° on the Smith Chart periphery is the angle of the reflection coefficient, which is twice the value of the electrical length. Therefore, the matching point is 30° from the load toward the source.

Walt

1527. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 16:53:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a4cbea9b-5ad1-4348-96a2-2d57cfea0d8b@o8g2000yqp.googlegroups.com>
Source record: 4478

On Jun 18, 10:49 am, walt <w...@w2du.com> wrote:
> Now where is the impedance-matching point on the line?

By definition, the Z0-match point is where the reflections toward the source are first eliminated, i.e. Vtot/Itot=Z0, which is on the source side of the inductive stub. If reflections were eliminated anywhere else (closer to the load) then there would be no need for that section of feedline. An energy analysis is possible but would no doubt be messy. For instance, what is the SWR at the stub short? Where is the ground reference at the stub short? Since the series stub is a certain number of degrees long, the two currents at the mouth of the stub cannot possibly be 100% differential, i.e. common-mode currents exist on the series stub. Since there is a phase shift in the series stub that doesn't exist in the main coax braid, common-mode current must be flowing in the rest of the system. Electrically, how long is the series stub in degrees? Does an impedance discontinuity exist at the short at the end of a series stub like it does at the end of a shorted stub - or not? What is the characteristic impedance of a series stub? (It is probably not the Z0 of the transmission line being used.)

There is obviously a multiple-port impedance discontinuity at the Z0-match point but I don't know what it is or how to measure it. I don't even know how to measure the multiple-port s11 at the Z0-match point. IMO, this example is just too complicated for 99.9% of the readers here, including myself.

If we put the series stub (or inductive coil) into a two-port black box and performed s-parameter measurements on it, we could come up with the s-parameter equations.

Source--50 ohm line--x--black box--y--150 ohm load

Reckon what s11 we would measure if we replaced the 150 ohm load with a 50 ohm resistor?
--
73, Cecil, w5dxp.com

1528. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 19:16:49 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <ec03b50c-4ab7-4f02-b529-0c30a97ddb17@glegroupsg2000goo.googlegroups.com>
Source record: 4479

On Sunday, 19 June 2011 01:49:09 UTC+10, walt wrote:
> On Jun 17, 9:38 pm, Owen Duffy <o....@owenduffy.net> wrote:
> > Hello Walt,
> >
> > On Monday, 13 June 2011 05:05:50 UTC+10, walt wrote:
,,,
> > > a voltage reflection coefficient Vρ equal to 0.5 at -60°. The
> > > normalized line resistance at this point is 1.1547 chart ohms, or
> >
> > This is wrong...
>
> Sorry Owen, my data above that you say is wrong is not wrong. I'm

By my calculation, the normalised line resistance at that point is 1.

You acknowledge that a couple of lines later when you said "...for a line impedance of 50 - j57.735 ohms", hence my further comment to that effect.

> absolutely astounded that you would say so. You have misconstrued my
> data to make such an assertion. I calculated the data and then plotted

I don't think so Walt, I think you have made a typo you haven't yet seen.

Owen

1529. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 19:36:57 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <aefc0e09-fe77-4895-b6d3-6b8c74555637@glegroupsg2000goo.googlegroups.com>
Source record: 4480

On Saturday, 18 June 2011 11:38:45 UTC+10, Owen Duffy wrote:
...
> The ratio of V/I at the node where both lines are joined is given for a shunt stub by the inverse of the sum of the inverses of V/I for each.

That was a sidetrack, as Walt's example is a series stub and in that case, the V/I looking into the series combination is simply the sum of V/I for each.

Owen

1530. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 19:50:44 UTC
From: dave <k1ttt@pstn2.net>
Message-ID: <629e4bde-57cb-4bd7-948d-401b329b81d9@c26g2000vbq.googlegroups.com>
Source record: 4481

On Jun 17, 7:33 pm, Michael <mjd1...@verizon.net> wrote:
> Hiya...
> Newly minted “non technical” ham here :-)
>
> Been a SW DX’er for many years and decided to get my ham ticket
> recently.
>
> Now that I've decided on what to get for my first ham radio, (TS-590s)
> I'm moving on to deciding on an antenna. The goal will be DX'ing the
> ham bands with phone and eventually CW. I'm looking for an antenna set
> up that will work on 10 to 80 meters. Of course, multiple specific
> antennas would be an ideal, but that is not in the cards. I've had a
> few options in mind. All of course, would be coupled with an antenna
> tuner if the internal auto tuner on the radio cold not do the job.
>
> 1. Set up a butternut HF9V on a roof mount approx 30-35 feet above the
> ground with tuned radials. The problem being, the footprint of my
> roof is only 35' x 35'. With the antenna set up in the center of the
> roof, there will be only a max of 17" to string the radials outward.
> I'd have to "snake" them in order to fit and figure out how to secure
> them. Another draw back is that verticals tend to be noisy. Not to
> mention shelling out money for a roof mount set up and putting lag
> bolts in up there.

verticals have gotten a bad rap, they are considered noisy only
because most people who don't have room for anything else put one up
on their roof or back yard where they are often near noise sources.

>
> 2. Set up a GAP Titan on a roof mount approx 30-35 feet up. No
> radials needed with that antenna, but I have been told/read that
> unless perfectly assembled, they don’t work as advertised. Again...
> Verticals can be a noisy and the set up time and cost.
>
> 3. Set up a Chameleon V11 or v12 vertical rigid diepole on a non
> conductive mast mounted to brackets on the side of the house with the
> feed point of the antenna being about 25 to 30 feet high. This antenna
> is advertised as a "dipole" and does not need any radial set up. There
> have only been a few reviews of this antenna. All are very favorable,
> but is it too good to be true??? A vertical mounted rigid antenna
> working with no radials even if it is being called a dipole ??? With
> this antenna, I’d be able to avoid having to use a roof mount. Just
> mast it to the side of the house high enough for the bottom pole to
> clear the roof. A simple install. Still… No idea at all how good
> this antenna is.

>
> 4. Go with a wire antenna. I had in mind using the Buckmaster off
> center fed diepole. The eight band 300 watt version has two pole
> lengths of 90' and 180' respectively. I had in mind hooking the
> center feed point to the apex height of the side of my house to a non
> conductive hook I can screw in up there. There is enough length of
> space on my lot to let both the long and short pole ends to extend out
> and down in and inverted V. I'd secure the pole ends to the ground
> with plastic cord and non conductive ground spikes so that the
> receiving wire was still elevated 8 to 10" above the ground. The feed
> line would not go straight down from the apex. Since the top of the
> roof is right where the feed point would be secured, I'd pull the feed
> up and right on to the roof. From there, run it across the roof and
> down the other side of the house a few feet and right into the shack
> on the top floor on the other side of the house. The upside... No
> ground or radials needed, no expensive or troublesome set up, if need
> be I can take the thing down in fifteen minutes with no problems at
> all with just a small hook left on the side of the house. It would
> also be a more "quite" antenna vs. a vertical like the ones mentioned
> above. The down side... It would radiate well east and west, but not
> well off the poles north and south. Also... The very top of the
> antenna would not be elevated above the house, so about ten feet of
> each pole up top would be obscured on one side by the house.

any dipole that low isn't going to be very directional, especially if
it is near a buiding.

>
> I also thought about using my current short-wave listening antenna to
> transmit with, but I think I'd have to change the matching
> transformer. I've got an Inverted L with a 30" vertical length and
> 40" horizontal length. That receiving wire is stranded copper made
> specifically to be used as receiving wire. It is attached to a
> matching transformer (an ICE-180) that is mounted to the foundation of
> my house about two feet off the ground. That ICE-180 is in turn
> directly grounded to an 8 foot brass grounding rod. The feed line is
> 50 ohm coax that runs up the side of the house from the ICE-180 and
> into the shack. The ICE-180 is a "receive only" item and I don't think
> you can load it up.

no, don't transmit through the ice180, it is for receive only.

since the ts590 has a built in tuner just throw up as long a dipole as
you can fit as high as you can get it and get on the air... any
antenna is better than no antenna, and you can make a dipole as good
as any you can buy at much less cost.

1531. Re: odd coax connector

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 19:55:44 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <16fcb651-5717-4006-b185-2993e63e14eb@d19g2000prh.googlegroups.com>
Source record: 4482

On Jun 17, 5:06 pm, "Johnno" <vk...@yahoo.com.au> wrote:
> That link didn't work, but is this the one you meant to publish?
>
> http://www.pasternack.com/pdf/catalog/ConnectorIdentifier.pdf
>
> 73
> John VK2KC
...
Yep. Thanks, John. I'm not sure HOW I managed to do THAT! I thought I copied-and-pasted, but something got messed up. Hope your revised URL helps others looking for connector info.

Ralph: I wonder if it's a specially modified N for some weird application. I've seen UHF connectors modified with the center taken out so that RG-213's center conductor and dielectric can be extended, for use in connecting high voltages. Your adapter sounds way different than that, though.

Cheers,
Tom

1532. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 19:56:05 UTC
From: walt <walt@w2du.com>
Message-ID: <33f05b32-85a5-4080-aad9-0d6e462eea54@28g2000yqu.googlegroups.com>
Source record: 4483

On Jun 18, 3:36 pm, Owen Duffy <o...@owenduffy.net> wrote:
> On Saturday, 18 June 2011 11:38:45 UTC+10, Owen Duffy wrote:
>
> ...
>
> > The ratio of V/I at the node where both lines are joined is given for a shunt stub by the inverse of the sum of the inverses of V/I for each.
>
> That was a sidetrack, as Walt's example is a series stub and in that case, the V/I looking into the series combination is simply the sum of V/I for each.
>
> Owen

Owen, are you still saying my data is wrong? And that I've made a typo that I missed? I can't believe I'm reading this. So please tell me, where is that typo? And please explain further where you believe I've made an error in calculating the data--I don't think so.

And for Cecil, you're worrying about common-mode currents on my series stubbing? I mentioned in a earlier post to not worry about it, because my series stubbing was used only as a tool to explain how the canceling wave is formed, and was not intended as a practical procedure for matching a line.

Walt

1533. Re: NVIS and VHF? Solved!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 20:03:59 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <itj0c2$gs2$1@dont-email.me>
Source record: 4484

On 6/17/2011 8:03 PM, 'Captain' Kirk DeHaan wrote:
> 'Captain' Kirk DeHaan said the following on 5/22/2011 11:04 AM:
>> I'm living in a wooded area and am trying to hit our club repeater
>> reliably. It's cloudy now so I'm and getting a bit of ducting but I have
>> a lot of trees, mostly poplars, in the direct path. I would have a line
>> of sight if not for the trees as I'm up enough in altitude. I can cut
>> the trees, they're mine, but finding the right ones is difficult and i
>> don't want to waste the whole grove.
>>
>> I go from keying the repeater with no intelligible signal to not being
>> able to hit it. Today I actually have an S meter reading due to the
>> clouds. I am currently using a J-pole and will put up a Yagi soon but
>> wonder if NVIS would work on 2m? I have only seen references to it being
>> applied in HF.
>>
>> 'Captain' Kirk DeHaan
>> N6SXR
>
> I purchased a 10 element 2m Yagi and installed it today. I can now hit
> the repeater in question full quieting. The other benefit is I can hit
> the one other repeater that I could not even hear before. I am quite
> happy now. :-) Now I don't have to cut down any more trees, other than
> those I am selling.
>
> Thanks for all the input from everyone. Problem is solved!
>

Glad to hear it, Kirk. Good work on your part.

73,
John - KD5YI

1534. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 20:05:50 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <c9f89dc4-7f6b-45ec-a7ad-03d1f6f3991e@glegroupsg2000goo.googlegroups.com>
Source record: 4485

On Monday, 13 June 2011 05:05:50 UTC+10, walt wrote:

To restrict the quote for clarity Walt:

> normalized line resistance at this point is 1.1547 chart ohms, or
> 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> ohms.

This is inconsistent, if I normalise 50-j57.735 I get 1-j1.155.

The first line of the quote is correct IF you replace the work resistance with reactance, otherwise it is wrong.

Owen

1535. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 20:26:04 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <bd46bcaa-95e2-4ba0-bc9f-dc0908d78225@glegroupsg2000goo.googlegroups.com>
Source record: 4486

On Monday, 13 June 2011 11:16:39 UTC+10, walt wrote:
...
> Here's what my problem really involves. Referring to Eq 8 in the first
> part of Steve Best's three-part article published in QEX, the equation
> is as follows: The section within the parentheses is the voltage-
> increase factor when all reflections have been re-reflected. That
> section is 1/1 - (rho_'a' x rho_'s'), where 'a' is the mismatch at the
> antenna (the load) and 's' is the mismatch at the source.

Best states early in his article "In this and the two subsequent articles, Thevenin equivalent circuits are used in the analysis of the wave reflections
that occur within a transmission-line system. A Thevenin-equivalent circuit consists of a constant-voltage source, VS, and an equivalent series output impedance, ZS. This equivalent circuit is not intended to be an accurate
physical representation of the output stages of a transmitter. However, the Thevenin-equivalent circuit can be used to illustrate concepts associated with the wave-reflection mechanics that occur within a transmission-line system
and specifically at the output terminals of a transmitter."

Whilst acknowledging that the Thevenin equivalent is not intended to be an accurate representation of a transmitter, he goes on to assert that it can be used to illustrate what happens in a network with a transmitter.... so to me, it seems that the one thing that has been readily dispensed with in this application is accuracy.

His equation 8 seems to me a development of why / how steady state is established in a context where the source is validly represented as linear, one where Gamma is independent of V and I at its terminals.

A long time ago, I was showing people how to align microwave filters using Return Loss (RL) measurement as the indicator of filter response. So, we had a sweep generator (with tightly controlled equivalent source impedance of 50+j0 ohms), to a circulator with filter on the next port and a crystal detector on the next port. The filter was terminated in 50+j0, and the filter was aligned for a specified RL response over a frequency range.

I questioned in my own mind at the time whether measurement of the reflection only was indeed measuring RL, we had not proven that the forward wave was constant with frequency and load impedance. This question was answered by a quite simple analysis that showed that the forward wave component wrt some Zo=Ro was constant if the source impedance was validly represented as a Thevenin source with source impedance equal to Zo. Since these sources have controlled source impedance, usually by way of a large attenuator at the output port, there was no need to measure the forward wave vs frequency, a single measurement with the filter port of the circulator terminated in a s/c provided a correct baseline of RL=0dB for the subsequent filter measurement.

Applying that knowledge to the case of a transmitter, if you were to connect a directional wattmeter between a HF ham transmitter and a variable impedance load (eg an ATU followed by

a dummy load), and vary the load impedance, changes in observed 'forward power' suggest that the transmitter is not well represented as a Thevenin source with Zs=50+j0 ohms. In my experience, the results of this test vary from transmitter to transmitter, but even with a single transmitter, vary with power level, different sensitivity to changes in R and X components of load Z, and frequency.

Owen

1536. Re: odd coax connector

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 21:22:16 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ca5qv61ibbq759flim17cpudoph5i6beoq@4ax.com>
Source record: 4487

On Fri, 17 Jun 2011 09:33:31 -0400, "Ralph Mowery"
<rmowery28146@earthlink.net> wrote:

>I found an adapter in my junk box that goes from a BNC to something similar
>to a male N type. It will not mate up to a female N connector.
>
>A normal N male connector has the center that is just about even with the
>shell that screws onto the female end. This connector has the male part
>sticking out about 1/4 of an inch past the shell. It will fit the female N
>connector except when I go to screw them together, there is not enough
>threads to mate and make a good mechanical connection.
>
>Anyone know what type of connector this is ?

It's an ordinary BNC to Male N adapter, where the dielectric has been
somehow mangled, causing the center shield, pin, and dielectric to get
pushed out. You might be able to disassemble the adapter and repair
it. Try pushing on the center pin on the N side of the adapter and
see if it moves back into the adapter. Some of the cheap connectors
from China are little better than junk and tend to fall apart with
little provocation.

Hint: Photos are useful for identifying strange connectors.
--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1537. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 22:04:30 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <02a4e7f7-c9ec-4646-a2ef-f59974e30930@u10g2000yqh.googlegroups.com>
Source record: 4492

On Jun 18, 2:56 pm, walt <w...@w2du.com> wrote:
> And for Cecil, you're worrying about common-mode currents on my series
> stubbing?

Walt, the common mode comment was probably the least important thing I
said.
--
73, Cecil, w5dxp.com

1538. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 22:11:57 UTC
From: walt <walt@w2du.com>
Message-ID: <82b10ce4-748b-4b4e-97f4-637a263cef96@t14g2000yqc.googlegroups.com>
Source record: 4488

On Jun 18, 4:05 pm, Owen Duffy <o...@owenduffy.net> wrote:
> On Monday, 13 June 2011 05:05:50 UTC+10, walt wrote:
>
> To restrict the quote for clarity Walt:
>
> > normalized line resistance at this point is 1.1547 chart ohms, or
> > 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> > ohms.
>
> This is inconsistent, if I normalise 50-j57.735 I get 1-j1.155.
>
> The first line of the quote is correct IF you replace the work resistance with reactance, otherwise it is wrong.
>
> Owen

You're right about the resistance vs reactance blip. That wasn't a
typo but a thought aberration. Sorry I didn't catch it.

But no, Owen, 1.1547 is correct from the equation. Increasing to seven
significant figures it's really 1.1547005. If you set your calculator
to three significant figures and divide 57.735 by 50, you get
1.1455, true. But if you set it to five significant figures you still
get 1.15470, and you're quibbling about the round-off error? The
precise figure is obtained from the equation, not off the Smith
Chart.

Walt

1539. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 22:37:31 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <842e2b44-6751-411f-a52b-702d812a7ee5@glegroupsg2000goo.googlegroups.com>
Source record: 4489

On Sunday, 19 June 2011 08:11:57 UTC+10, walt wrote:
> On Jun 18, 4:05 pm, Owen Duffy <o....@owenduffy.net> wrote:
> > On Monday, 13 June 2011 05:05:50 UTC+10, walt wrote:
> >
> > To restrict the quote for clarity Walt:
> >
> > > normalized line resistance at this point is 1.1547 chart ohms, or
> > > 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> > > ohms.
> >
> > This is inconsistent, if I normalise 50-j57.735 I get 1-j1.155.
> >
> > The first line of the quote is correct IF you replace the work resistance with
reactance, otherwise it is wrong.
> >
> > Owen
>
> You're right about the resistance vs reactance blip. That wasn't a
> typo but a thought aberration. Sorry I didn't catch it.

Ok, well whatever it was, it was wrong as I said, but you have got it now!

It was not about precision, it is not about round off errors, it is the statement that "normaised resistance is 1.1547" when it is actually 1, normalised reactance though is 1.1547.

The comment was a byproduct of my reading and working through what you wrote, trying to understand it.

The other thing that was mentioned in discussion is the "non-dissipative resistance" which you seem to think must give rise to Gamma=1 at the source. This "non-dissipative resistance" seems an invention that is quite flexible, quite convenient, because it seems that some posters regard radiation resistance as a "non-dissipative resistance" yet they have not argued that Gamma at the antenna equals 1.

Owen

1540. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 22:50:33 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <0c0db8b8-409f-4bfd-94d3-1f05d4cd49b8@22g2000prx.googlegroups.com>
Source record: 4490

On Jun 13, 11:55 am, K7ITM <k7...@msn.com> wrote:
> walt wrote:
> > I have a question for W5DXP, KB7QHC, W7ITM and K0TAR relating to
> > transmission lines.This is not a trick question. This is a straight-
> > forward question for which I 'm dead serious. The answer will involve
> > a resultingreflectioncoefficient.
>
> > Assume a 50-ohm line terminated in a purely resistive 150-ohm load,
> > yielding a 3:1 mismatch with a voltagereflectioncoefficientVñ equal
> > to 0.5 at 0°. We want to place a stub on the line at the position
> > relating to the unit-resistance circle on the Smith Chart. For a 3:1
> > mismatch this position is exactly 30° rearward from the load, and has
> > a voltagereflectioncoefficientVñ equal to 0.5 at -60°. The
> > normalized line resistance at this point is 1.1547 chart ohms, or
> > 57.735 ohms on the 50-ohm line, for a line impedance of 50 - j57.735
> > ohms.
>
> > Placing a short-circuited stub having an inductive reactance of
> > +j57.735 ohms on the line cancels the line reactance, establishing a
> > new line impedance at this matching point of 50 + j0. However, a lot
> > more is involved than just canceling the reactances to establish the
> > impedance match. To begin, the stub generates a new, secondary,
> > cancelingreflectionthat cancels the primary reflected wave generated
> > by the mismatched line termination.
>
> > Recall the voltagereflectioncoefficientVñ of the line impedance
> > prior to placing the stub--Vñ = 0.5 at -60°. The corresponding current
> >reflectioncoefficientIñ = 0.5 at +120°
>
> > We now look at the voltagereflectioncoefficientof the stub, which
> > is Vñ = 0.5 at +60°, and the corresponding currentreflection
> >coefficientof the stub which is Iñ = 0.5 at -120°.
>
> > Observe that resultant angle of the voltage coefficients is 0° and
> > resultant angle of the current coefficients is 180°, all with the same
> > magnitude--0.5. It is well known that when these respective
> > coefficients exist at this point, the matching point, this condition
> > establishes a virtual open circuit to rearward traveling waves at this
> > point, prohibiting any further rearward travel of the reflected waves,
> > thus reversing their direction toward the load.
>
> > Consequently, the result is total re-reflectionof the two sets of
> > reflected waves at the match point.
>

> > Now the question--what is the resultant voltagecoefficientof
> >reflectionat the match point? My position is that ñ = 1.0, which
> > indicates totalreflection. However, I've been criticized on this
> > value, my critics saying that because this virtual open circuit was
> > established by wave interference, ñ cannot equal 1.0. They assert
> > that ñ = 1.0 can be obtained only through a physical open circuit.
>
> > So I now ask you, am I correct in saying that thereflection
> >coefficientin this situation is 1.0? I'm holding my breath for your
> > answers.
>
> > Walt
>
> Walt,
>
> I've gotten confused here...I see in your follow-up posting that the
> "stub" is to be in series with the line, but you also talk about a
> shorted stub. It doesn't make any sense to me to put a shorted
> section of line in series with another line, so my confusion starts.
> Next, I'm assuming that we're talking about lines with real (non-
> reactive) impedance, so I'm wondering why you go 30 degrees from the
> load to a point where the reflected impedance is, as you say, 50-j57
> ohms. I'm assuming we want to get to 50 ohms, eventually, and the
> series section to do that from this 50-j57 ohm point would have to
> have infinite characteristic impedance. Why not just start from the
> load and use a line whose impedance is sqrt(150*50) and is 1/4 wave
> long? That seems a no-brainer.
>
> Or, if you want to use 50 ohm lines, go 60 degrees from the 150 ohm
> load and tap into the line with a shorted _stub_ (not series line
> section) that's about 40 degrees long, and you have your match to 50
> ohms.
>
> But of course, you're not necessarily looking for a straightforward
> solution to a matching problem here, you have a question aboutreflectioncoefficients.
 Since I got confused about just what the
> configuration really is, I didn't even try to sort out the rest of the
> posting aboutreflectioncoefficients, and I'm afraid I thus can't
> offer an answer to your ultimate question. I will say, though, that
> in a (theoretical, since lossless is assumed) system of TEM lines
> having real (non-reactive) impedances and loads that don't generate
> power, you can have anyreflectioncoefficientmagnitude from zero to
> unity. If you have dissipative loads, the only way you can get to
> unityreflectioncoefficientmagnitude is to arrange the lines to
> prevent any power actually being dissipated in any of the loads:
> e.g., shunt the loads with shorts, or put opens in series with them.
>
> Cheers,
> Tom

For some reason, Google Groups won't let me see any postings to this thread past June 13th. If anyone has asked me any specific questions related to my post about that time (which I also can't see now), my apologies for not answering. Maybe Google will fix this, but I rather doubt it. I suppose I'm better off not knowing what all is going on anyway.

Cheers,
Tom

1541. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-18 22:57:02 UTC
From: Michael <mjd1966@verizon.net>
Message-ID: <f286709f-0d37-4553-9cf5-fe6bbcd5c94b@a10g2000vbz.googlegroups.com>
Source record: 4491

On Jun 18, 9:41 am, Colin <bdsno...@netzero.net> wrote:
> <<<<SNIP>>>>
>
> Hi Michael,
>
> Good advice you've received. However----if you're a newly licensed
> Technician, remember the band plans and don't run afoul in the HF bands---
>
> 73
>
> Colin
>
> --- Posted via news://freenews.netfront.net/ - Complaints to n...@netfront.net ---

Indeed, I am a brandy new Technician... I plan to upgrade to General in short order. I decided to space the tests out a few months appart as I learn. I already knew a good deal of what was on the Technician exam from my many years of sw dx'ing and homebrewing. I am also up near eight words per minute with CW, but that is only with the learning program I have been using on my PC. I never actually sent any CW :-) My plan is to get my antenns set up and try some phone on 10 meters where the Technicians are allowed with that mode. I also have a few friends in the area that are hams that I will cut my CW teeth on :-) I dont have much interest in VHF and UHF, so I have every intention of securing my General soon. My real interest is 80 and 40 meter DX. As far as the antenna goes... I've decided to string up a ladder fed diepole. Seems the best way to go for now... Later on a yagi :-)

1542. Re: Need Antenna Advise...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 01:26:20 UTC
From: Michael <mjd1966@verizon.net>
Message-ID: <f8649f08-25f1-479d-845a-debfb6cac8eb@j25g2000vbr.googlegroups.com>
Source record: 4493

On Jun 18, 10:15 am, W8CCW <Jferrel...@triad.rr.com> wrote:
> On Fri, 17 Jun 2011 11:53:09 -0700 (PDT), Michael
>
>
>
>
>
> <mjd1...@verizon.net> wrote:
> >Hiya...
>
> >Non technical newly minted ham here :-)
>
> >Now that I've decided on what to get for my first ham radio,
> >(TS-590s)
> >I'm moving on to deciding on an antenna.
>
> >The goal will be DX'ing the ham bands with phone and eventually CW.
> >I'm looking for an antenna set up that will work on 10 to 80 meters.
> >Of course, multiple specific antennas would be an ideal, but that is
> >not in the cards.
>
> >I've had a few options in mind. All of course, would be coupled with
> >an antenna tuner if the internal auto tuner on the radio cold not do
> >the job.
>
> The first antenna you buy or build will be a disappointment.
>
> Bigger is always better than smaller with an antenna. We all
> eventually learn that.
>
> A multi band antenna is like a Swiss Army Knife. (I use both!) They
> are very handy, but it is always easy to find a better solution to the
> task at hand.
>
> Cautiously imitate the success of others before you get too serious
> about innovating. There are reasons why some antennas or equipment are
> or are not popular.
>
> Locally here in Central North Carolina the recommendation to new Hams
> is what is known as the G5RV antenna. There are a lot of respected
> vendors who offer G5RV's at competitive prices. You will need some
> kind of tuner sooner or later.
>
> Get on the air! Find out what direction you really want to go.- Hide quoted text -

>
> - Show quoted text -

Thanx for the response...

I actually have a 102' G5RV that I used to use for short-wave listening. Currently, it is coiled up in storage in my basement. I took that antenna down along with a long wire I had after I built the inverted L that I currently use for short wave listening. The inverted L did better across the board than those other two antennas, so I took them down. The G5RV had a decent signal to noise ratio for short wave, but the inverted L I built is considerably better. I'd assume that grounding the matching transformer properly made all the difference. At any rate... I would not used that old G5RV for my transmit antenna because the feed line is only 300 ohms. Since I have decided to go with a wire dipole for starters, I'm moving on now to buy the best one I can find. I don't care to homebrew my first ham antenna... Rather have one that I'm sure works while I'm learning the ropes

1543. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 01:57:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <454e2609-1a9f-46bc-add0-2c7b4cc6aa4a@w10g2000yqh.googlegroups.com>
Source record: 4494

On Jun 18, 5:50 pm, K7ITM <k7...@msn.com> wrote:
> For some reason, Google Groups won't let me see any postings to this
> thread past June 13th.

Tom, I had the same problem and clicking on "sort by date" solved the
problem.
--
73, Cecil, w5dxp.com

1544. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 02:33:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4dfd6001$0$74951$8046368a@newsreader.iphouse.net>
Source record: 4495

On 6/18/2011 5:57 PM, Michael wrote:
> On Jun 18, 9:41 am, Colin<bdsno...@netzero.net> wrote:
>> <<<<SNIP>>>>
>>
>> Hi Michael,
>>
>> Good advice you've received. However----if you're a newly licensed
>> Technician, remember the band plans and don't run afoul in the HF bands---
>>
>> 73
>>
>> Colin
>>
>> --- Posted via news://freenews.netfront.net/ - Complaints to n...@netfront.net ---
>
> Indeed, I am a brandy new Technician... I plan to upgrade to General
> in short order. I decided to space the tests out a few months appart
> as I learn. I already knew a good deal of what was on the Technician
> exam from my many years of sw dx'ing and homebrewing. I am also up
> near eight words per minute with CW, but that is only with the
> learning program I have been using on my PC. I never actually sent
> any CW :-) My plan is to get my antenns set up and try some phone on
> 10 meters where the Technicians are allowed with that mode. I also
> have a few friends in the area that are hams that I will cut my CW
> teeth on :-) I dont have much interest in VHF and UHF, so I have
> every intention of securing my General soon. My real interest is 80
> and 40 meter DX. As far as the antenna goes... I've decided to string
> up a ladder fed diepole. Seems the best way to go for now... Later on
> a yagi :-)

Ahh. You are a VHF/UHF/Microwave contester. You just don't know it yet.

tom
K0TAR

1545. Re: Need Antenna Advise...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 06:31:46 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <8fc92948-732c-4059-97b3-6d0642ea2776@s16g2000prf.googlegroups.com>
Source record: 4496

On Jun 18, 6:26 pm, Michael <mjd1...@verizon.net> wrote:
> On Jun 18, 10:15 am, W8CCW <Jferrel...@triad.rr.com> wrote:
>
>
>
>
>
>
>
>
>
>
> > On Fri, 17 Jun 2011 11:53:09 -0700 (PDT), Michael
>
> > <mjd1...@verizon.net> wrote:
> > >Hiya...
>
> > >Non technical newly minted ham here :-)
>
> > >Now that I've decided on what to get for my first ham radio,
> > >(TS-590s)
> > >I'm moving on to deciding on an antenna.
>
> > >The goal will be DX'ing the ham bands with phone and eventually CW.
> > >I'm looking for an antenna set up that will work on 10 to 80 meters.
> > >Of course, multiple specific antennas would be an ideal, but that is
> > >not in the cards.
>
> > >I've had a few options in mind. All of course, would be coupled with
> > >an antenna tuner if the internal auto tuner on the radio cold not do
> > >the job.
>
> > The first antenna you buy or build will be a disappointment.
>
> > Bigger is always better than smaller with an antenna. We all
> > eventually learn that.
>
> > A multi band antenna is like a Swiss Army Knife. (I use both!) They
> > are very handy, but it is always easy to find a better solution to the
> > task at hand.
>
> > Cautiously imitate the success of others before you get too serious
> > about innovating. There are reasons why some antennas or equipment are
> > or are not popular.
>

> > Locally here in Central North Carolina the recommendation to new Hams
> > is what is known as the G5RV antenna. There are a lot of respected
> > vendors who offer G5RV's at competitive prices. You will need some
> > kind of tuner sooner or later.
>
> > Get on the air! Find out what direction you really want to go.- Hide quoted text -
>
> > - Show quoted text -
>
> Thanx for the response...
>
> I actually have a 102' G5RV that I used to use for short-wave
> listening. Currently, it is coiled up in storage in my basement. I
> took that antenna down along with a long wire I had after I built the
> inverted L that I currently use for short wave listening. The
> inverted L did better across the board than those other two antennas,
> so I took them down. The G5RV had a decent signal to noise ratio for
> short wave, but the inverted L I built is considerably better. I'd
> assume that grounding the matching transformer properly made all the
> difference. At any rate... I would not used that old G5RV for my
> transmit antenna because the feed line is only 300 ohms. Since I have
> decided to go with a wire dipole for starters, I'm moving on now to
> buy the best one I can find. I don't care to homebrew my first ham
> antenna... Rather have one that I'm sure works while I'm learning the
> ropes

Since you decided to start with a wire dipole, consider making or downloading a map centered on your location so you optimize the orientation for whom you want to work. For example, my 20m Field Day dipole will be optimized for 060 degrees, the bearing from Southern California that favors the most of North America. Getting it wrong can cost more than an s-unit.

http://www.wm7d.net/az_proj/ will provide one from your inputs. (I could only get it to print North America just now; probably something I did.)

If you make a resonant dipole cut to length for one band (my preference), its height-above-ground affects its resonant frequency. Close to the ground brings resonance at a lower frequency than the formulas predict, so you'd need to shorten it to bring it to resonance (at that height).

Antennas can be hard work but when you get one that plays well, it's all worth it.

"Sal"
(KD6VKW)

1546. Re: NVIS and VHF? Solved!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 11:00:27 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <a2501607-261c-47fb-82c6-6daec973dd22@v10g2000yqn.googlegroups.com>
Source record: 4497

On 18 jun, 03:03, 'Captain' Kirk DeHaan <captk...@ncc-1701a.net>
wrote:
> 'Captain' Kirk DeHaan said the following on 5/22/2011 11:04 AM:
>
> > I'm living in a wooded area and am trying to hit our club repeater
> > reliably. It's cloudy now so I'm and getting a bit of ducting but I have
> > a lot of trees, mostly poplars, in the direct path. I would have a line
> > of sight if not for the trees as I'm up enough in altitude. I can cut
> > the trees, they're mine, but finding the right ones is difficult and i
> > don't want to waste the whole grove.
>
> > I go from keying the repeater with no intelligible signal to not being
> > able to hit it. Today I actually have an S meter reading due to the
> > clouds. I am currently using a J-pole and will put up a Yagi soon but
> > wonder if NVIS would work on 2m? I have only seen references to it being
> > applied in HF.
>
> > 'Captain' Kirk DeHaan
> > N6SXR
>
> I purchased a 10 element 2m Yagi and installed it today. I can now hit
> the repeater in question full quieting. The other benefit is I can hit
> the one other repeater that I could not even hear before. I am quite
> happy now. :-) Now I don't have to cut down any more trees, other than
> those I am selling.
>
> Thanks for all the input from everyone. Problem is solved!
>
> --
> 'Captain' Kirk DeHaan
> N6SXR
>
> "Beam me up Scotty, there's no intelligent life here"

Hello Kirk,

Thanks for the feedback on the outcome of your experiments, and to
hear that there is no problem anymore.

Wim
PA3DJS
www.tetech.nl

1547. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 12:43:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <164a2099-f77d-4bf3-8fea-dfb82fde00a6@b1g2000yql.googlegroups.com>
Source record: 4498

Here's the mathematical problem with assuming a reflection coefficient of 1.0 at the source output: Let's assume 100 watts of sourced power and 50 watts of incident reflected power in a 50 ohm environment.

Source Wave: V=70.7v at 0 deg, I=1.414a at 0 deg, 100w toward the load.

Incident Reflected Wave: V=50v at 0 deg, I=1a at 180 deg, 50w toward the source.

A reflection coefficient of 1.0 assumes a (virtual) short at the source. A short circuit reverses the phase angle of the incident reflected current during the reflection process so all forward-traveling voltages and currents would have a phase angle of zero degrees. Superposition phasor math becomes simple arithmetic addition.

Re-reflected Wave: V=50v at 0 deg, I=1a at 0 deg, 50w toward the load.

70.7v at 0 deg PLUS 50v at 0 deg EQUALS 120.7v at 0 deg.

1.414a at 0 deg PLUS 1a at 0 deg EQUALS 2.414a at 0 deg.

120.7v(2.414a)=291w, i.e. 141 watts more power than the source power and reflected power combined. Where did the extra power come from?

Conclusion: Assuming a reflection coefficient of 1.0 looking back into the source violates the conservation of energy principle. (The only exception to this assertion is the special case where the incident reflected wave arrives orthogonal to the sourced wave.)

Here's the problem with assuming that a virtual impedance can cause reflections:

A virtual impedance is created according to the following equation using *phasor math*:

Zvirtual = (Vfwd+Vref)/(Ifwd+Iref)

Note: REFLECTED ENERGY HAS TO BE FLOWING BACKWARDS THROUGH THE VIRTUAL IMPEDANCE POINT FOR THE VIRTUAL IMPEDANCE TO EXIST.

How can the same reflected energy be re-reflected while at the same time being used to cause the virtual impedance that causes the re-reflection? Isn't that akin to having one's cake and eating it too?
--
73, Cecil, w5dxp.com

1548. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 14:21:52 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <Y-WdnXlVlaCdm2PQnZ2dnUVZ_hCdnZ2d@earthlink.com>
Source record: 4499

"Michael" <mjd1966@verizon.net> wrote in message
news:f286709f-0d37-4553-9cf5-fe6bbcd5c94b@a10g2000vbz.googlegroups.com...
>Indeed, I am a brandy new Technician... I plan to upgrade to General
>in short order. I decided to space the tests out a few months appart
>as I learn. I already knew a good deal of what was on the Technician
>exam from my many years of sw dx'ing and homebrewing. I am also up
>near eight words per minute with CW, but that is only with the
>learning program I have been using on my PC. I never actually sent
>any CW :-) My plan is to get my antenns set up and try some phone on
>10 meters where the Technicians are allowed with that mode. I also
>have a few friends in the area that are hams that I will cut my CW
>teeth on :-) I dont have much interest in VHF and UHF, so I have
>every intention of securing my General soon. My real interest is 80
>and 40 meter DX. As far as the antenna goes... I've decided to string
>up a ladder fed diepole. Seems the best way to go for now... Later on
>a yagi :-)

Don't try to read too much into the antennas. Unless you can get an 80 meter up to around 100 feet, just about any dipole will work. I like the Windom or Off center fed antenn myself for an all around antenna. It just does not work 15 meters or the WARC bands very well.. I have one up and an 80 meter dipole about the same height (about 50 feet) at right angles to it. Not much differance most of the time, but sometimes one or the other will be about 10 db beter.

For 80 meters and up, about 130 to 140 feet of wire fed with ladder line and a good tuner is a good way to go if you want to bring the ladderline into the tuner.

Depending on how much work it it, you may want to put up a 10 meter dipole or if possiable make it out of aluminum conduit or such and make it so yo can rotate it.

As you problay know there is no CW test now. You should have taken the General written test when you took the other one. Should not have cost any more at the time and you may have gotten lucky.

It only took me about 30 years to get my triband antenna up.. I was mainly interisted in weak signal vhf and did have a light weight tower up about 40 feet for that, but it would not hold a triband antenna. Finally moved to another location and put up a good tower to 60 feet with the triband and other vhf antennas.

1549. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 19:57:02 UTC
From: walt <walt@w2du.com>
Message-ID: <b170df83-dcda-45cb-a5aa-1fb6316103ca@v5g2000vbm.googlegroups.com>
Source record: 4500

On Jun 19, 8:43 am, Cecil Moore <w5...@hotmail.com> wrote:
> Here's the mathematical problem with assuming a reflection coefficient
> of 1.0 at the source output: Let's assume 100 watts of sourced power
> and 50 watts of incident reflected power in a 50 ohm environment.
>
> Source Wave: V=70.7v at 0 deg, I=1.414a at 0 deg, 100w toward the
> load.
>
> Incident Reflected Wave: V=50v at 0 deg, I=1a at 180 deg, 50w toward
> the source.
>
> A reflection coefficient of 1.0 assumes a (virtual) short at the
> source. A short circuit reverses the phase angle of the incident
> reflected current during the reflection process so all forward-
> traveling voltages and currents would have a phase angle of zero
> degrees. Superposition phasor math becomes simple arithmetic addition.
>
> Re-reflected Wave: V=50v at 0 deg, I=1a at 0 deg, 50w toward the load.
>
> 70.7v at 0 deg PLUS 50v at 0 deg EQUALS 120.7v at 0 deg.
>
> 1.414a at 0 deg PLUS 1a at 0 deg EQUALS 2.414a at 0 deg.
>
> 120.7v(2.414a)=291w, i.e. 141 watts more power than the source power
> and reflected power combined. Where did the extra power come from?
>
> Conclusion: Assuming a reflection coefficient of 1.0 looking back into
> the source violates the conservation of energy principle. (The only
> exception to this assertion is the special case where the incident
> reflected wave arrives orthogonal to the sourced wave.)
>
> ----------
>
> Here's the problem with assuming that a virtual impedance can cause
> reflections:
>
> A virtual impedance is created according to the following equation
> using *phasor math*:
>
> Zvirtual = (Vfwd+Vref)/(Ifwd+Iref)
>
> Note: REFLECTED ENERGY HAS TO BE FLOWING BACKWARDS THROUGH THE VIRTUAL
> IMPEDANCE POINT FOR THE VIRTUAL IMPEDANCE TO EXIST.
>

> How can the same reflected energy be re-reflected while at the same
> time being used to cause the virtual impedance that causes the re-
> reflection? Isn't that akin to having one's cake and eating it too?
> --
> 73, Cecil, w5dxp.com

The problem here Cecil, is that you've made the same error as Steve in believing that the reflected voltage adds to the source voltage at the source to establish the forward voltage. I've proven that it does not, but it's power or energy that adds. Adding the voltages gives the wrong answer--adding the powers does not. (When adding reflected and source voltages you obtain the standing wave, not the forward wave.) When you add the 50w of reflected power to the 100w of source power we get 150w. On the 50-ohm line, 150w breaks down into 86.603v and 1.723a, No extra power to be accounted for, and no violation of the Conservation of Energy Law.

The explanation of this concept appears in Chapter 25 of Reflections 3, beginning on Page 25-3, Col 2, Par beginning with "As mentioned earlier, Steve failed to recognize..." From there on into the math I present on the next page proves the concept to be correct.

Concerning 'virtual' impedances, an impedance is an impedance, whether formed by Z = E/I, or by a physical impedor. Virtual opens or shorts are different animals, established by two conjugately-related reflected waves traveling in the same direction, and arriving simultaneously with the source wave at an impedance matching point. Please read all of Sec 25.3 in Chapter 25, beginning on Page 25-5.

Walt, W2DU

1550. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 21:41:43 UTC
From: Michael <mjd1966@verizon.net>
Message-ID: <fe4839c2-cf38-46b7-a8b2-016121dd7a55@t7g2000vbv.googlegroups.com>
Source record: 4551

On Jun 19, 10:21 am, "Ralph Mowery" <rmowery28...@earthlink.net>
wrote:
> "Michael" <mjd1...@verizon.net> wrote in message
>
> news:f286709f-0d37-4553-9cf5-fe6bbcd5c94b@a10g2000vbz.googlegroups.com...
>
> >Indeed, I am a brandy new Technician... I plan to upgrade to General
> >in short order. I decided to space the tests out a few months appart
> >as I learn. I already knew a good deal of what was on the Technician
> >exam from my many years of sw dx'ing and homebrewing. I am also up
> >near eight words per minute with CW, but that is only with the
> >learning program I have been using on my PC. I never actually sent
> >any CW :-) My plan is to get my antenns set up and try some phone on
> >10 meters where the Technicians are allowed with that mode. I also
> >have a few friends in the area that are hams that I will cut my CW
> >teeth on :-) I dont have much interest in VHF and UHF, so I have
> >every intention of securing my General soon. My real interest is 80
> >and 40 meter DX. As far as the antenna goes... I've decided to string
> >up a ladder fed diepole. Seems the best way to go for now... Later on
> >a yagi :-)
>
> Don't try to read too much into the antennas. Unless you can get an 80
> meter up to around 100 feet, just about any dipole will work. I like the
> Windom or Off center fed antenn myself for an all around antenna. It just
> does not work 15 meters or the WARC bands very well.. I have one up and an
> 80 meter dipole about the same height (about 50 feet) at right angles to
> it. Not much differance most of the time, but sometimes one or the other
> will be about 10 db beter.
>
> For 80 meters and up, about 130 to 140 feet of wire fed with ladder line and
> a good tuner is a good way to go if you want to bring the ladderline into
> the tuner.
>
> Depending on how much work it it, you may want to put up a 10 meter dipole
> or if possiable make it out of aluminum conduit or such and make it so yo
> can rotate it.
>
> As you problay know there is no CW test now. You should have taken the
> General written test when you took the other one. Should not have cost any
> more at the time and you may have gotten lucky.
>
> It only took me about 30 years to get my triband antenna up.. I was mainly
> interisted in weak signal vhf and did have a light weight tower up about 40
> feet for that, but it would not hold a triband antenna. Finally moved to

> another location and put up a good tower to 60 feet with the triband and
> other vhf antennas.

thanx for all the input... when i went to take my technician exam, i got through it very quickly... they graded it and asked if i wanted to take the general exam also... since i had only read the technician manual, i did not take the ve up on his offer to try the general... i plan to get the new 2011-2015 general manual and upgrade in the next few months... in the mean time, i have to work out equipment and set up issues. i've decided on what radio to get (TS-590s) and going with a wire dipole... the next issue is earth ground and lightning protection. my shack is on the second floor of my house. in order to deal with rf and lighting with my short wave set up, i went with an inverted L that is grounded to an 8 foot brass rod through the matching transformer. i dont have any rf problems with this set up even though my radio is not grounded in the shack. for lightning protection, i disconnect my coax feed and hang it out the window when I'm not using the radio. i've already read a pile of stuff on line already about other people that have had the same problem with a second floor location, but I'm still not sure what I'm going to do about grounding the transceiver when I hook it up to a dipole.

1551. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 21:52:54 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <1658d671-1a80-460e-ba30-8f92d6ec6b4b@glegroupsg2000goo.googlegroups.com>
Source record: 4552

On Monday, 20 June 2011 05:57:02 UTC+10, walt wrote:
...
> The problem here Cecil, is that you've made the same error as Steve in
> believing that the reflected voltage adds to the source voltage at the
> source to establish the forward voltage. I've proven that it does not,

Best says at p5-6 of his first article "In all transmission line systems, the level of voltage or wave reflection at either end of the transmission line is determined from the reflection coefficient of the impedance terminating the transmission line. The “re-reflected” voltage, VRER, adds to the initial forward-traveling voltage, VI, and the process of reflection and “re-reflection” continues until equilibrium is reached."

In my view, his statement is incomplete, he does not address the response of the source to the new V/I ratio that exists at its terminals when the reflected wave arrives and is "re-reflected".

As I explained earlier in this thread, if Zs=Rs=Zo=Ro, (proof at http://vk1od.net/transmissionline/VSWR/Zs50.htm) then the forward voltage component remains constant and so, reflected voltage can simply be added to the forward voltage to find the new terminal voltage.

Taking the case of a Thevenin source where Rs=0, terminal voltage V is constant and so Vf must change when the reflected wave arrives at the source, and so Vf is not independent of Vr and so we can say that Vf is not independent of Vr for all Zs, but for the special case Zs=Rs=Zo=Ro discussed in the previous par, it is.

When Best considered the case where Gamma at the source was not 0, then he needed to also consider the source response to the change V/I after the reflected wave arrived at the source. Best does discuss this response of the source to changing V/I in the second article where his SPICE model shows what is happening.

Discussing Thevenin sources driving transmission lines is quite interesting, but it is naive to think that typical RF power amplifiers response to terminal V/I is the same as a Thevinin source. In any event, this is an explanation of how the steady state is established rather than an analysis of the steady state.

Owen

1552. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-19 23:06:55 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <441794dc-cea6-4fc1-885f-b4c81d83443d@k16g2000yqm.googlegroups.com>
Source record: 4553

On Jun 19, 2:57 pm, walt <w...@w2du.com> wrote:
> The problem here Cecil, is that you've made the same error as Steve in
> believing that the reflected voltage adds to the source voltage at the
> source to establish the forward voltage. I've proven that it does not,
> but it's power or energy that adds.

What you seem to be saying is that the voltage reflection coefficient is NOT the square root of the power reflection coefficient since if the power reflection coefficient is 1.0, the voltage reflection coefficient would also be 1.0. It seems that would be a violation of reflection mechanics. Is reflection mechanics wrong or did you misunderstand what I (and Steve) are saying?

Walt, I believe we have proven the same thing. But neither Steve nor I believe that the reflected voltage adds to the source voltage at the source. We had this same conversation years ago when I lived at my last QTH and you still seem to be confused about what Steve was saying.

Steve's P1 is *NOT* the source power (as you seem to believe). It is the source power that is transmitted through the impedance discontinuity, i.e. Pfwd1(1-rho^2). His P2 is *NOT* the reflected power (as you seem to believe). It is the reflected power that is re-reflected from the impedance discontinuity, i.e. Pref2(rho^1). It seems you have never understood what Steve was saying. Let's go over it again. The power reflection coefficient at point '+' is 0.5 looking in either direction.

100w Source--50 ohm--+--1/2WL 291.3 ohms--50 ohm load

On the 50 ohm line, Pfwd1=100w and Pref1=0w

On the 291.3 ohm line, Pfwd2=200w and Pref2=100w

Steve's P1 equals Pfwd1(1-rho^2)=100w*0.5=50w

That's the component of source power that makes it through the impedance discontinuity.

Steve's P2 equals Pref2(rho^2)=100w*0.5=50w

That's the component of reflected power that is re-reflected from the impedance discontinuity.

The total forward power on the 291.3 ohm feedline then becomes:

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(0)

Ptot = 50w + 50w + 2*SQRT(50w*50w) = 200w

And that is indeed the forward power on the 291.3 ohm line.

Please go back and read what Steve said given that his P1 is NOT the source power and his P2 is NOT the reflected power. His power equation comes directly from any optics physics book and is the irradiance equation for EM waves.

Steve did indeed make some errors in part 3 of his articles but the above is not one of them.
--
73, Cecil, w5dxp.com

1553. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 01:30:10 UTC
From: nm5k@wt.net
Message-ID: <78bc3cc7-8f27-4112-a747-0f0e90edbdba@glegroupsg2000goo.googlegroups.com>
Source record: 4554

On Sunday, June 19, 2011 4:41:43 PM UTC-5, Michael wrote:
the next issue is earth ground and lightning
> protection. my shack is on the second floor of my house. in order to
> deal with rf and lighting with my short wave set up, i went with an
> inverted L that is grounded to an 8 foot brass rod through the
> matching transformer. i dont have any rf problems with this set up
> even though my radio is not grounded in the shack. for lightning
> protection, i disconnect my coax feed and hang it out the window when
> I'm not using the radio. i've already read a pile of stuff on line
> already about other people that have had the same problem with a
> second floor location, but I'm still not sure what I'm going to do
> about grounding the transceiver when I hook it up to a dipole.

Using a dipole, which is a complete antenna, there
is no need to have an RF ground. And no need to ground
the radio, unless there is a high voltage safety reason
for it. "safety ground". But any outlet with a ground
pin will provide that.
With the case of the Kenwood 12v rig, that is not
the case. Only the power supply that feeds it needs a
safety ground. And most all those have a third ground pin
on the plug.
But you do need to worry about lightning. But less with
a dipole, than a vertical that is on the house.
The horizontal wire will be less likely to stream than
a vertical. So less likely to attract a strike.
But it can still happen. It would be best to run the
feed line straight down to ground, and then under or
along the ground to the shack. But this is kind of
impractical with a typical ladder line setup. :(
The worst case for damage is to have the feed line
running elevated in the air to the 2nd floor shack.
So if you have to run it like that, you sure don't
want it connected when storms are in the area.
I'd have some way to totally disconnect it from
the house on the outside when not in use.

This is one reason why I generally prefer coax.
Easier to mitigate the effects of lightning..
I can snub lines to ground at the base of masts,
connect and snub through a "ground window" at the
entrance to the shack, and generally it's easier
to use the typical lightning arresters.
Ladder line is harder to deal with in these aspects.
Or at least to me..

But you can use gas tubes on each conductor, etc..
That would require a good lightning ground outside.
And all grounds outside should route to a central
point, and be tied together to keep all at the same
potential.
If you use a mast to support the apex of the dipole,
it's more likely to be struck than the wire antenna
itself. So it's best to use a metal mast that is
grounded at the base. I don't use any non conductive
masts here.
I have no RF ground in the shack. Except for rare
cases, I don't believe in them. I've found they
usually cause more problems than they solve.
These problems would usually rear their ugly heads
when I would kick in some RF horsepower.. What is not
yet a problem at 100w, can be a real pain at a KW+.
:/

1554. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 01:34:28 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <2c344d5f-0f0e-49a6-83f2-47fdf58f07ae@glegroupsg2000goo.googlegroups.com>
Source record: 4555

On Monday, 20 June 2011 07:52:54 UTC+10, Owen Duffy wrote:
...
> As I explained earlier in this thread, if Zs=Rs=Zo=Ro, (proof at

I am restricting that unnecessarily, the requirement is just that Zs=Zo.

More of than not, an instrument that we might use is calibrated for some real Zo, ie Zo=Ro, and so that would mandate that Zs=Rs to observe constant Vf with such an instrument.

Owen

1555. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 03:10:30 UTC
From: Michael <mjd1966@verizon.net>
Message-ID: <ed0d2c55-b162-4fcd-b40f-aafbe175256c@a7g2000vby.googlegroups.com>
Source record: 4556

On Jun 19, 9:30 pm, n...@wt.net wrote:
> On Sunday, June 19, 2011 4:41:43 PM UTC-5, Michael wrote:
>
> the next issue is earth ground and lightning
>
> > protection. my shack is on the second floor of my house. in order to
> > deal with rf and lighting with my short wave set up, i went with an
> > inverted L that is grounded to an 8 foot brass rod through the
> > matching transformer. i dont have any rf problems with this set up
> > even though my radio is not grounded in the shack. for lightning
> > protection, i disconnect my coax feed and hang it out the window when
> > I'm not using the radio.   i've already read a pile of stuff on line
> > already about other people that have had the same problem with a
> > second floor location, but I'm still not sure what I'm going to do
> > about grounding the transceiver when I hook it up to a dipole.
>
> Using a dipole, which is a complete antenna, there
> is no need to have an RF ground. And no need to ground
> the radio, unless there is a high voltage safety reason
> for it. "safety ground". But any outlet with a ground
> pin will provide that.
> With the case of the Kenwood 12v rig, that is not
> the case. Only the power supply that feeds it needs a
> safety ground. And most all those have a third ground pin
> on the plug.
> But you do need to worry about lightning. But less with
> a dipole, than a vertical that is on the house.
> The horizontal wire will be less likely to stream than
> a vertical. So less likely to attract a strike.
> But it can still happen. It would be best to run the
> feed line straight down to ground, and then under or
> along the ground to the shack. But this is kind of
> impractical with a typical ladder line setup. :(
> The worst case for damage is to have the feed line
> running elevated in the air to the 2nd floor shack.
> So if you have to run it like that, you sure don't
> want it connected when storms are in the area.
> I'd have some way to totally disconnect it from
> the house on the outside when not in use.
>
> This is one reason why I generally prefer coax.
> Easier to mitigate the effects of lightning..
> I can snub lines to ground at the base of masts,
> connect and snub through a "ground window" at the

> entrance to the shack, and generally it's easier
> to use the typical lightning arresters.
> Ladder line is harder to deal with in these aspects.
> Or at least to me..
> But you can use gas tubes on each conductor, etc..
> That would require a good lightning ground outside.
> And all grounds outside should route to a central
> point, and be tied together to keep all at the same
> potential.
> If you use a mast to support the apex of the dipole,
> it's more likely to be struck than the wire antenna
> itself. So it's best to use a metal mast that is
> grounded at the base. I don't use any non conductive
> masts here.
> I have no RF ground in the shack. Except for rare
> cases, I don't believe in them. I've found they
> usually cause more problems than they solve.
> These problems would usually rear their ugly heads
> when I would kick in some RF horsepower.. What is not
> yet a problem at 100w, can be a real pain at a KW+.
> :/

Thanx for the input... One of the reasons i was considering an OCF dipole over a ladder fed "ballanced" dipole at first was a matter of lightning protection. With an ocf dipole, i can use 50 ohm coax as the feed line. not to much trouble to use a gas tube. Though, i'll probably stick with my current method and just disconnect the feed line and hang it out the window even if I use an arrestor. i'm also told by a few other people that putting a sharp 90 degree bend in the feedline outside the shack is an old trick that usually helps in the case of a direct strike. i'd gather that static coming down the feedline would probably be the more common worry.

1556. Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 04:07:45 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itmh2h$r8o$2@dont-email.me>
Source record: 4557

http://www.foxnews.com/scitech/2011/06/17/japanese-scientists-create-meat-from-poop/

Antenna parties will never be the same, you will be the topic of every rag chew from coast to coast! I bet your mouth is watering and you can just imagine the smell coming of a couple of those burgers on your BBQ.

I am telling you, you just can't make chit like this up, luckily, the japanese can! ROFLOL!

--
Regards,
JS

RON PAUL IN 2012, THERE SIMPLY ISN'T ANOTHER CHOICE!

1557. Re: Need Antenna Advise...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 10:29:55 UTC
From: david <none@nospam.com>
Message-ID: <itn7f3$d9p$1@dont-email.me>
Source record: 4558

On Sat, 18 Jun 2011 23:31:46 -0700, Sal M. Onella rearranged some
electrons to say:

> http://www.wm7d.net/az_proj/ will provide one from your inputs. (I
> could only get it to print North America just now; probably something I
> did.)

Change the map scale to something other than the default.

1558. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 15:16:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fffcc753-6c8b-4bf5-a46b-3fb8d32a37eb@y19g2000prd.googlegroups.com>
Source record: 4559

On Jun 19, 2:57 pm, walt <w...@w2du.com> wrote:
> The problem here Cecil, is that you've made the same error as Steve in
> believing that the reflected voltage adds to the source voltage at the
> source to establish the forward voltage. I've proven that it does not,
> but it's power or energy that adds.

For a voltage analysis, one doesn't need to use power (or energy) at all. Given the proper voltage reflection coefficients, the voltages simply phasor add up to the proper values. The conservation of energy principle is completely transparent during the superposition of voltages. It is the power (energy) analysis that is causing the problems.

Walt, you may be right about reflected power incident upon a source being 100% redistributed back toward the load but it is definitely not due to 100% re-reflection. In any power (energy) analysis, interference effects must be included in the analysis. If the source completely rejects incident reflected energy, it is because total destructive interference is occurring within the source which results in constructive interference toward the load. Here's a reference from my "Worldradio" energy article that explains the interference phenomenon.

"[8] Maxwell, Walter, Reflections II, (c) 2001 Worldradio Books, ISBN 0-9705206-0-3 page 4-3, "The destructive wave interference between these two complementary waves ... causes a complete cancellation of energy flow in the direction toward the generator. Conversely, the constructive wave interference produces an energy maximum in the direction toward the load, ..." page 23-9, "Consequently, all corresponding voltage and current phasors are 180 degrees out of phase at the matching point. ... With equal magnitudes and opposite phase at the same point (point A, the matching point), the sum of the two (reflected) waves is zero."

i.e., a source doesn't have to have a power reflection coefficient of 1.0 in order for 100% of the incident reflected energy to be *redistributed* back toward the load. If total destructive interference is occurring within the source, the power reflection coefficient can have any value between 0.0 and 1.0.

Consider a Zg=50 ohm source driving a Z0=50 ohm 1/4WL ideal shorted stub. The voltage reflection coefficient looking back into the source is 0.0 so the re-reflected power is zero. However, zero power is being sourced because total destructive interference is occurring in the source. All of the reflected power is redistributed back into the stub by destructive interference and none of it is re-reflected, i.e., the

power reflection coefficient looking back into the source is 0.0
because Zg=Z0.
--
73, Cecil, w5dxp.com

1559. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 15:46:35 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <itnq0r$va8$1@news.jpl.nasa.gov>
Source record: 4560

On 6/19/2011 8:10 PM, Michael wrote:
> Thanx for the input... One of the reasons i was considering an OCF
> dipole over a ladder fed "ballanced" dipole at first was a matter of
> lightning protection. With an ocf dipole, i can use 50 ohm coax as
> the feed line. not to much trouble to use a gas tube. Though, i'll
> probably stick with my current method and just disconnect the feed
> line and hang it out the window even if I use an arrestor. i'm also
> told by a few other people that putting a sharp 90 degree bend in the
> feedline outside the shack is an old trick that usually helps in the
> case of a direct strike. i'd gather that static coming down the
> feedline would probably be the more common worry.

Nobody seems to have asked the burning question that's really important... what's your budget?

As far as kind of antenna, feedline, etc.

You're not going to have an optimum on all bands. For right now, as the sunspots are coming up, the high bands seem to be working fairly well (and as a Tech, all you get is 10m anyway, as far as phone.. but when you get your General or Extra, you'll get the rest.. study and take that test..)

I'm a huge fan of autotuners *at the feed*. You don't have to spend your time trying to adjust the antenna, or worrying about feedline loss, or any of a zillion other things. Sure, there's some loss in the tuner, but it's pretty easy to get the antenna close, and if the antenna is "close" then the autotuner takes care of the rest.

Life is too short to try and prune radials for resonance, and then have it go out of tune when the tree next to the antenna grows, etc.

Folks who have tube amps have the tuner built into to the output network, and they're used to the whole thing of tuning every time they change frequency, so for them, open wire line to their rig is fine. Do the match at the amp end, the loss from mismatch in the line is small because the line is high Z, etc. But that's not typical of a "brand new" station: solid state 100W amp, coax feed, etc.

My own preference is for an autotuner at the feedpoint of some sort of dipole or inverted V. Any of the 10-15-20-40 multi wire band dipoles will work quite well, and with an autotuner, you don't have to worry about "pruning to exact length". The two sides don't have to be equal length, even. Be aware that not all tuners can tune all impedances, and you generally do NOT want a transformer between antenna and tuner (esp if there's a lot of reactance to tune out), so going too far in the OCF

direction may be counter productive. Then you can feed with coax, which is a whole lot more convenient than any sort of open wire line.

Second choice which is less visually obtrusive is some sort of vertical with an autotuner at the base and an adhoc counterpoise of random length wires. Higher the base, the better, in general.

Lightning protection..

Where are you located? A lightning alley like mid Florida? Or somewhere were lightning is an unusual thing (like Southern California)?

Gas tube arrestor is a nice idea. What will you hook the ground on that arrestor to? A stake pounded in outside where the coax comes in? Make sure that you run a bonding wire from the stake to the electrical system ground. A concrete encased grounding electrode is even better (Ufer ground)

Or, if you're not really in a big lightning area, just use the arrestor as a "receiver input overvoltage protector", for whatever good it might do. (I don't know what a TS590 input looks like, but the couple hundred volts from the arrestor might blow it up...). disconnect the coax when your not using it. BTW, short the coax with something and make sure it's not close to something that might catch fire if you do get a lightning hit.

The 90 degree thing is useless.. there's no significant impedance in a 90 degree bend. If you get a direct hit, unless you're spending a fair amount of time and effort on a good system, you're going to get damage..You don't want to spend thousands of dollars on a lightning protection system to protect a 1000 dollar rig.

Static discharge *is* a problem.. but, if you hook the shield to the third wire ground (or that other grounding system), on a dipole, that pretty much takes care of it. Maybe a 100k resistor between the legs (or between the vertical and ground).. Once the center insulator gets a bit grungy, leakage resistance will solve that problem for you.

1560. Re: Antenna advice/suggestions needed...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 18:34:11 UTC
From: Michael <mjd1966@verizon.net>
Message-ID: <935660de-0a40-4ffb-b718-7e18f9d59d33@q1g2000vbj.googlegroups.com>
Source record: 4561

On Jun 20, 11:46 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> On 6/19/2011 8:10 PM, Michael wrote:
>
> > Thanx for the input... One of the reasons i was considering an OCF
> > dipole over a ladder fed "ballanced" dipole at first was a matter of
> > lightning protection. With an ocf dipole, i can use 50 ohm coax as
> > the feed line. not to much trouble to use a gas tube. Though, i'll
> > probably stick with my current method and just disconnect the feed
> > line and hang it out the window even if I use an arrestor. i'm also
> > told by a few other people that putting a sharp 90 degree bend in the
> > feedline outside the shack is an old trick that usually helps in the
> > case of a direct strike. i'd gather that static coming down the
> > feedline would probably be the more common worry.
>
> Nobody seems to have asked the burning question that's really
> important... what's your budget?

I had in mind a max of $500.00 total.

> As far as kind of antenna, feedline, etc.
>
> You're not going to have an optimum on all bands. For right now, as the
> sunspots are coming up, the high bands seem to be working fairly well
> (and as a Tech, all you get is 10m anyway, as far as phone.. but when
> you get your General or Extra, you'll get the rest.. study and take that
> test..)

> I'm a huge fan of autotuners *at the feed*. You don't have to spend
> your time trying to adjust the antenna, or worrying about feedline loss,
> or any of a zillion other things. Sure, there's some loss in the tuner,
> but it's pretty easy to get the antenna close, and if the antenna is
> "close" then the autotuner takes care of the rest.
>
> Life is too short to try and prune radials for resonance, and then have
> it go out of tune when the tree next to the antenna grows, etc.
>
> Folks who have tube amps have the tuner built into to the output
> network, and they're used to the whole thing of tuning every time they
> change frequency, so for them, open wire line to their rig is fine. Do
> the match at the amp end, the loss from mismatch in the line is small
> because the line is high Z, etc. But that's not typical of a "brand
> new" station: solid state 100W amp, coax feed, etc.
>
> My own preference is for an autotuner at the feedpoint of some sort of
> dipole or inverted V. Any of the 10-15-20-40 multi wire band dipoles

> will work quite well, and with an autotuner, you don't have to worry
> about "pruning to exact length". The two sides don't have to be equal
> length, even. Be aware that not all tuners can tune all impedances, and
> you generally do NOT want a transformer between antenna and tuner (esp
> if there's a lot of reactance to tune out), so going too far in the OCF
> direction may be counter productive.   Then you can feed with coax,
> which is a whole lot more convenient than any sort of open wire line.
>
> Second choice which is less visually obtrusive is some sort of vertical
> with an autotuner at the base and an adhoc counterpoise of random length
> wires.   Higher the base, the better, in general.
>
> Lightning protection..
>
> Where are you located? A lightning alley like mid Florida? Or somewhere
> were lightning is an unusual thing (like Southern California)?

im in the northeastern most corner of NJ. not exactly lightning alley, but we get storms regularly. about five years ago, one of my radios got fried. i almost always remembered to disconnect my coax and hang it out the window, but the one time i did not, i paid for it. an icom pcr 1000 was left connected to my antenna switch during a storm. i did not even think about it until a few days later, when i went to use the radio. it powered up, but nothing else worked. i sent it to icom and they told me it was a sure bet that static or lightning was the culprit. since then, I have not forgotten to go through my routine :-)

> Gas tube arrestor is a nice idea. What will you hook the ground on that
> arrestor to? A stake pounded in outside where the coax comes in?

That is what I had in mind. I already have an 8' brass rod in the ground for my inverted L.

>Make
> sure that you run a bonding wire from the stake to the electrical system
> ground. A concrete encased grounding electrode is even better (Ufer ground)

> Or, if you're not really in a big lightning area, just use the arrestor
> as a "receiver input overvoltage protector", for whatever good it might
> do. (I don't know what a TS590 input looks like, but the couple hundred
> volts from the arrestor might blow it up...). disconnect the coax when
> your not using it. BTW, short the coax with something and make sure
> it's not close to something that might catch fire if you do get a
> lightning hit.

All I have to short a feed line to on the second floor is a metal heating system radiator :-) Probably not the best choice. So... I just let it hang out the wondow when not in use.

> The 90 degree thing is useless.. there's no significant impedance in a
> 90 degree bend. If you get a direct hit, unless you're spending a fair

> amount of time and effort on a good system, you're going to get
> damage..You don't want to spend thousands of dollars on a lightning
> protection system to protect a 1000 dollar rig.

makes perfect sense to me... so... i have always tried to go with
"some protection is better than none". though, many are fond of
saying that "*some* lighting protection = zero protection"

> Static discharge *is* a problem.. but, if you hook the shield to the
> third wire ground (or that other grounding system), on a dipole, that
> pretty much takes care of it. Maybe a 100k resistor between the legs
> (or between the vertical and ground).. Once the center insulator gets a
> bit grungy, leakage resistance will solve that problem for you.

1561. Re: Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 23:47:41 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <52086a4f-6a33-44cb-8f1f-0b5aca9caedb@z7g2000prh.googlegroups.com>
Source record: 4562

On Jun 19, 9:07 pm, John Smith <bit_buc...@gmx.com> wrote:
> http://www.foxnews.com/scitech/2011/06/17/japanese-scientists-create-...
>
> Antenna parties will never be the same, you will be the topic of every
> rag chew from coast to coast! I bet your mouth is watering and you can
> just imagine the smell coming of a couple of those burgers on your BBQ.
>
> I am telling you, you just can't make chit like this up, luckily, the
> japanese can! ROFLOL!
>

I'm rapidly losing my respect for the Japanese*. No joke.

There's a reason it smells bad -- you're supposed to leave it alone.

"Sal"

* or for Fox News, if they allowed a hoax to go out as news.

1562. Re: Need Antenna Advise...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-20 23:53:10 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <b272d541-d6d6-4f78-b86c-dde674122960@h12g2000pro.googlegroups.com>
Source record: 4563

On Jun 20, 3:29 am, david <n...@nospam.com> wrote:
> On Sat, 18 Jun 2011 23:31:46 -0700, Sal M. Onella rearranged some
> electrons to say:
>
> >http://www.wm7d.net/az_proj/will provide one from your inputs. (I
> > could only get it to print North America just now; probably something I
> > did.)
>
> Change the map scale to something other than the default.

Thanks :-)

1563. Re: Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 02:07:24 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itouctnvk11@dont-email.me>
Source record: 4564

On 6/20/2011 4:47 PM, Sal M. Onella wrote:
> On Jun 19, 9:07 pm, John Smith<bit_buc...@gmx.com> wrote:
>> http://www.foxnews.com/scitech/2011/06/17/japanese-scientists-create-...
>>
>> Antenna parties will never be the same, you will be the topic of every
>> rag chew from coast to coast! I bet your mouth is watering and you can
>> just imagine the smell coming of a couple of those burgers on your BBQ.
>>
>> I am telling you, you just can't make chit like this up, luckily, the
>> japanese can! ROFLOL!
>>
>
> I'm rapidly losing my respect for the Japanese*. No joke.
>
> There's a reason it smells bad -- you're supposed to leave it alone.
>
> "Sal"
>
> * or for Fox News, if they allowed a hoax to go out as news.

Sal, buddy, it is me and you, bud!

And, we are eating vegetarian, given this alternative, I'll buy ...

Regards,
JS

1564. Re: Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 04:22:08 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <9k5007pkpnnrkvs4bsomeum1in6iju0v5v@4ax.com>
Source record: 4565

On Mon, 20 Jun 2011 19:07:24 -0700, John Smith <bit_bucket@gmx.com>
wrote:

>And, we are eating vegetarian, given this alternative, I'll buy ...
>Regards,
>JS

Wimps. The antenna party barbeque is suppose to be an adventure.
Perhaps some of these would be more acceptable:
<http://vacations.com/2009/09/15/can-you-stomach-this-14-exotic-and-disgusting-entrees-from-around-the-world/>
<http://www.weirdmeat.com>
<http://listverse.com/2007/09/11/top-10-disgusting-foods/>
<http://www.manixmag.com/health-fitness/exotic-and-disgusting-food-from-around-the-world.html>
After all those, perhaps the reprocessed feces burger might look a bit
more appetizing?

One of the bad habits I acquired in my mis-spent youth was a taste for
a few bugs.
<http://en.wikipedia.org/wiki/Entomophagy>
When available, I like to munch crickets and chocolate ants.
<http://www.oddee.com/item_97582.aspx>
<http://www.flickr.com/photos/shiftingskin/4714390975/>
Yummmm...

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1565. Re: Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 06:30:58 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itpdr2hnb1@dont-email.me>
Source record: 4566

On 6/20/2011 9:22 PM, Jeff Liebermann wrote:
> On Mon, 20 Jun 2011 19:07:24 -0700, John Smith<bit_bucket@gmx.com>
> wrote:
>
>> And, we are eating vegetarian, given this alternative, I'll buy ...
>> Regards,
>> JS
>
> Wimps. The antenna party barbeque is suppose to be an adventure.
> Perhaps some of these would be more acceptable:
> <http://vacations.com/2009/09/15/can-you-stomach-this-14-exotic-and-disgusting-entrees-from-around-the-world/>
> <http://www.weirdmeat.com>
> <http://listverse.com/2007/09/11/top-10-disgusting-foods/>
> <http://www.manixmag.com/health-fitness/exotic-and-disgusting-food-from-around-the-world.html>
> After all those, perhaps the reprocessed feces burger might look a bit
> more appetizing?
>
> One of the bad habits I acquired in my mis-spent youth was a taste for
> a few bugs.
> <http://en.wikipedia.org/wiki/Entomophagy>
> When available, I like to munch crickets and chocolate ants.
> <http://www.oddee.com/item_97582.aspx>
> <http://www.flickr.com/photos/shiftingskin/4714390975/>
> Yummmm...
>

I am telling you, I wasn't worried about much, just retired and enjoying
life, but ...

Now I am back to worrying about getting some income streams going, if
steak goes to $1,000 lb., I want to be able to afford the real stuff!

I don't know who they plan on eating that "SYNTHETIC MEAT" (and, I put
that very, very kindly -- poor dumb japs, I think the radiation is
affecting their tastes buds AND minds!), but it ain't me!

I mean, who'd a thought, they find themselves knee deep in sewage and
they decide to eat themselves out of the mess! Go figure! I mean, I
have to admit, that is "thinking out of the box" -- but right into the
old sewer plant! EWWWWWWWWWWWW! Kinda job security at the old food
recycling plant ... you eat more, there is more waste, you eat more,
more waste ...

Funny thing is, well, not really funny ... just the way that article is written is in the form of the brain washing which usually precedes the actual action(s!)

I guess I am the lightweight here, just the thought and reading that article made me gag ... I thought it would provoke more anger in Americans ... I mean, if you don't get angry about people eating human feces, what is there which could possibly anger you?

I mean, have you ever considered the parasites which commonly inhabit the human gut, not to mention the dangerous diseases, viruses, fungus, prions, etc?

And to think, before this, I was worried about GMO foods and getting them labeled!

Now I am beginning to feel I am up "synthetic food" creek without a paddle!

Regards,
JS

1566. Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 08:20:25 UTC
From: "Helmut Wabnig"
Message-ID: <36k007h9fa33n4qqrcvhj03u3s5i61q7o3@4ax.com>
Source record: 4567

What influence has a metallic boom on a Yagi antenna?
Normally the design is made without taking the boom into
consideration.

http://yfrog.com/janextgen14p

The voltage curves on the parasitic elements have their maximum
in the center. When using a non-conductive beam the situation is not
affected.

With a metallic boom and with the parasitic elements fastened
to the metal would the oscillation pattern be changed?

http://img28.imageshack.us/img28/3096/boommounted.jpg

Do I have to insulate the parasitic elements from the metallic boom
or is it advisable and allowed to fix them with metal fasteners?
Does the connection have to be made electrically good,
or does it not matter at all?

In fact there are both designs used, but probably without further
consideration. Some manufacturers use plastic holding clamps
for mounting the elements, for no other reason than saving time
during assembly. Other manufacturers just drive a self cutting
thread screw through everything.

The YAGICAD software does talk about mounting elements
on the boom, and NEC is too difficult for me to understand.

Thank you in advance for your answers, and a sixpack
will be kept ready to compensate your efforts at your next visit.

w.

1567. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 09:17:57 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <e3d26b0b-5fce-471c-8035-4e18020ae483@glegroupsg2000goo.googlegroups.com>
Source record: 4568

On Tuesday, 21 June 2011 18:20:25 UTC+10, Helmut Wabnig wrote:
> What influence has a metallic boom on a Yagi antenna?
> Normally the design is made without taking the boom into
> consideration.

No necessarily, but it is common to design for a non-conductive boom and then make a correction to element lengths for the type of boom in use.
>
> http://yfrog.com/janextgen14p
>
> The voltage curves on the parasitic elements have their maximum
> in the center. When using a non-conductive beam the situation is not
> affected.

That is not true.

> With a metallic boom and with the parasitic elements fastened
> to the metal would the oscillation pattern be changed?

Depending on how the boom is or is not bonded to the element, and the geometry (sizes, position etc), the conductive boom may reduce the magnetic flux nearest to the element, effectively reducing its inductance in the middle area, so tuning it higher.

> Do I have to insulate the parasitic elements from the metallic boom
> or is it advisable and allowed to fix them with metal fasteners?
> Does the connection have to be made electrically good,
> or does it not matter at all?

If the 'connection' has infinite R (ie no connection) or zero R, there is no power converted to heat, otherwise you invite conversion of RF energy to heat.
>
>
> In fact there are both designs used, but probably without further
> consideration. Some manufacturers use plastic holding clamps

Not by competent designers, they consider the effects of the boom.

> for mounting the elements, for no other reason than saving time
> during assembly. Other manufacturers just drive a self cutting
> thread screw through everything.
>
> The YAGICAD software does talk about mounting elements
> on the boom, and NEC is too difficult for me to understand.
>
> Thank you in advance for your answers, and a sixpack
> will be kept ready to compensate your efforts at your next visit.
>

The foregoing may challenge your thinking on the subject.

Owen

1568. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 09:44:16 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <eda6d94d-7d44-46e9-a4c7-2654923f4c2e@f7g2000yqf.googlegroups.com>
Source record: 4569

On 21 jun, 10:20, Helmut Wabnig <hwabnig@.- --- -.dotat> wrote:
> What influence has a metallic boom on a Yagi antenna?
> Normally the design is made without taking the boom into
> consideration.
>
> http://yfrog.com/janextgen14p
>
> The voltage curves on the parasitic elements have their maximum
> in the center. When using a non-conductive beam the situation is not
> affected.
>
> With a metallic boom and with the parasitic elements fastened
> to the metal would the oscillation pattern be changed?
>
> http://img28.imageshack.us/img28/3096/boommounted.jpg
>
> Do I have to insulate the parasitic elements from the metallic boom
> or is it advisable and allowed to fix them with metal fasteners?
> Does the connection have to be made electrically good,
> or does it not matter at all?
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> In fact there are both designs used, but probably without further
> consideration. Some manufacturers use plastic holding clamps
> for mounting the elements, for no other reason than saving time
> during assembly. Other manufacturers just drive a self cutting
> thread screw through everything.
>
> The YAGICAD software does talk about mounting elements
> on the boom, and NEC is too difficult for me to understand.
>
> Thank you in advance for your answers, and a sixpack
> will be kept ready to compensate your efforts at your next visit.
>
> w.

Hello Helmut,

There is influence, whether or not the elements are electrically
connected. When (thickness of the boom) << (element length), the
influence is negligible.

When the above isn't met, you may experience a noticeable shift in
design frequency (it will go up). when connecting the elements to the
boom, the influence will be more. So to compensate for this, the
elements should be somewhat longer. Note that it also depends on where

the metallic contacts are. An element through a boom will experience more shift then an element having just a single-point electrical connection to a boom.

When you have bad connections (for example due to corrosion or a loose nut), movement (induced by wind) will change the electrical characteristics in a time varying way. This may result in cracking noise, even on strong signals. Clean strong signals may introduce noise at other frequencies due to the time varying change in antenna properties.

This may be a reason for manufactures to use non-contact mounting of beam elements. I saw several UHF yagis (with relative thick square booms w.r.t. element length) with loose elements making (bad or no) contact with the square boom. So if you decide to make electrical contact, make sure it is long lasting.

Here you may find useful info http://www.qsl.net/yu1aw/Misc/vhf_ant.htm

With kind regards,

Wim
PA3DJS
www.tetech.nl

1569. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 10:18:16 UTC
From: "Helmut Wabnig"
Message-ID: <cfr0075q2j2seood265cireiu1ui1amh7p@4ax.com>
Source record: 4570

On Tue, 21 Jun 2011 02:44:16 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>On 21 jun, 10:20, Helmut Wabnig <hwabnig@.- --- -.dotat> wrote:
>> What influence has a metallic boom on a Yagi antenna?
>> Normally the design is made without taking the boom into
>> consideration.
>>
>> http://yfrog.com/janextgen14p
>>
>> The voltage curves on the parasitic elements have their maximum
>> in the center. When using a non-conductive beam the situation is not
>> affected.
>>
>> With a metallic boom and with the parasitic elements fastened
>> to the metal would the oscillation pattern be changed?
>>
>> http://img28.imageshack.us/img28/3096/boommounted.jpg
>>
>> Do I have to insulate the parasitic elements from the metallic boom
>> or is it advisable and allowed to fix them with metal fasteners?
>> Does the connection have to be made electrically good,
>> or does it not matter at all?
>>
>> In fact there are both designs used, but probably without further
>> consideration. Some manufacturers use plastic holding clamps
>> for mounting the elements, for no other reason than saving time
>> during assembly. Other manufacturers just drive a self cutting
>> thread screw through everything.
>>
>> The YAGICAD software does talk about mounting elements
>> on the boom, and NEC is too difficult for me to understand.
>>
>> Thank you in advance for your answers, and a sixpack
>> will be kept ready to compensate your efforts at your next visit.
>>
>> w.
>
>Hello Helmut,
>
>There is influence, whether or not the elements are electrically
>connected. When (thickness of the boom) << (element length), the
>influence is negligible.
>

>When the above isn't met, you may experience a noticeable shift in
>design frequency (it will go up). when connecting the elements to the
>boom, the influence will be more. So to compensate for this, the
>elements should be somewhat longer. Note that it also depends on where
>the metallic contacts are. An element through a boom will experience
>more shift then an element having just a single-point electrical
>connection to a boom.
>
>When you have bad connections (for example due to corrosion or a loose
>nut), movement (induced by wind) will change the electrical
>characteristics in a time varying way. This may result in cracking
>noise, even on strong signals. Clean strong signals may introduce
>noise at other frequencies due to the time varying change in antenna
>properties.
>
>This may be a reason for manufactures to use non-contact mounting of
>beam elements. I saw several UHF yagis (with relative thick square
>booms w.r.t. element length) with loose elements making (bad or no)
>contact with the square boom. So if you decide to make electrical
>contact, make sure it is long lasting.
>
>Here you may find useful info http://www.qsl.net/yu1aw/Misc/vhf_ant.htm
>
>With kind regards,
>
>
>Wim
>PA3DJS
>www.tetech.nl

Thanks, and also thanks to Owen,

I made an error in the description
http://yfrog.com/janextgen14p
because those are current curves, not voltage.

What I learned is, a metallic boom requires a small +length correction
of the dipole elements. YAGICAD does it automatically with a cryptic
value called L+BCF (boom correction factor?)
An electrical connection with the metallic boom will need more
correction than an isolated element mount, if I am correct.

A metallic boom should also affect dipole spacing,
but to what extent, I do not know.
YAGICAD does not care for that, or does it?
Am not sure.

w.

1570. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 10:49:03 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <itpsuv$117$1@ra.nrl.navy.mil>
Source record: 4571

On 06/15/2011 03:58 PM, walt wrote:

> Thanks again for the response, JB. What I mean by rearward of the load
> is simply going toward the source from the load. But are we in
> agreement? We probably are as long as we agree on terminology
> regarding the Smith Chart. The unity resistance circle for a 3:1
> mismatch yields a normalized impedance of 1 - j1.1547 as you know. As
> I said in my previous post, a radial line passing through this point
> on the unity-resistance circle joins the periphery of the Chart at
> -60ï¿½. It important to note that this -60ï¿½ is reflection degrees, which
> is two-times greater than degrees along the transmission line.
> Therefore, the normalized line impedance of 1 -j1.1547 appears at 30ï¿½
> from the load toward the source on the xmsn line, not at -60ï¿½. Hope
> we're in agreement on this.
>
> Walt

Yes, that is correct. I failed to equate the 60 deg angle of the
reflection coefficient at the point of observation, which is ~.167
wavelengths (30 deg) from the load. Thanks for keeping me straight.
Sincerely, and 73s from N4GGO.

--
J. B. Wood e-mail: arl_123234@hotmail.com

1571. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 11:31:17 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <b8f36c42-6ced-498d-8987-2a850d77b7bb@glegroupsg2000goo.googlegroups.com>
Source record: 4572

On Tuesday, 21 June 2011 20:18:16 UTC+10, Helmut Wabnig wrote:

> What I learned is, a metallic boom requires a small +length correction
> of the dipole elements. YAGICAD does it automatically with a cryptic
> value called L+BCF (boom correction factor?)

If you Google for "boom correction factor", you should find a wealth of discussion on the subject. It is not all cut and dried, it remains an area of active research.

Owen

1572. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 16:13:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <itqfvvqqv1@news.jpl.nasa.gov>
Source record: 4575

On 6/21/2011 1:20 AM, Helmut Wabnig wrote:
> What influence has a metallic boom on a Yagi antenna?
> Normally the design is made without taking the boom into
> consideration.
>
> http://yfrog.com/janextgen14p
>
> The voltage curves on the parasitic elements have their maximum
> in the center. When using a non-conductive beam the situation is not
> affected.
>
> With a metallic boom and with the parasitic elements fastened
> to the metal would the oscillation pattern be changed?

Yes.. not a lot, but important on a high gain antenna (one that is "super directive".. i.e. has gain > N, where N is number of elements) because the amplitude may not change much, but the phase might, and small phase errors ruin the nulls in the pattern, which degrades the overall directivity.

A modeling program like NEC can easily show the difference.

>
> http://img28.imageshack.us/img28/3096/boommounted.jpg
>
>
That's the distribution of the voltage, but your picture doesn't show phase and magnitude, which is what's important.

There are a whole variety of techniques to account for the boom in a model, ranging from actually modeling the boom (tricky with some modeling codes) to empirically determined correction factors.

>
> Do I have to insulate the parasitic elements from the metallic boom
> or is it advisable and allowed to fix them with metal fasteners?
> Does the connection have to be made electrically good,
> or does it not matter at all?

It does matter. What you really don't want is something that changes. Either always connected or always insulated is what you want.

>
>
> In fact there are both designs used, but probably without further
> consideration. Some manufacturers use plastic holding clamps

> for mounting the elements, for no other reason than saving time
> during assembly. Other manufacturers just drive a self cutting
> thread screw through everything.
>
> The YAGICAD software does talk about mounting elements
> on the boom, and NEC is too difficult for me to understand.

basically, a directive antenna gets its directivity from having different phase and magnitude of current in each of the elements. In a Yagi-Uda, only one element is driven, so the current in the other elements comes from mutual coupling among the elements.

That coupling is affected by the spacing, length, and diameter(s) of the elements, so having the boom connected is sort of like having an element that is somewhat "fat" in the middle. It's slightly different.

On a 3 element wideband Yagi, the "boom correction" is going to be pretty small. But on a 432 MHz moonbounce array with 20 elements, and where you want very low side/back lobes to keep the noise temperature down, it gets more important.

back before computers got fast and cheap, there were a lot of analytical (or semi-analytical) approaches to designing Yagi antennas. You'd have an approximation of mutual coupling (from, say, King) and form a matrix equation. You'd figure out what element currents you wanted for your pattern, and iterate your element lengths and spacings until it all worked out. (or, you use the matrix equation to determine the element currents, given the excitation, and then calculate the pattern from that, using simple phased array techniques).

The problem is that simple approximations like King's typically assume constant diameter elements. So, by dint of a bunch of empirical work, people found "correction factors" that you could apply to an idealized model (no boom) that would make it work ok on a boom.

>
> Thank you in advance for your answers, and a sixpack
> will be kept ready to compensate your efforts at your next visit.
>
> w.

1573. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 16:20:40 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <itqgco$r09$1@news.jpl.nasa.gov>
Source record: 4576

On 6/21/2011 4:31 AM, Owen Duffy wrote:
> On Tuesday, 21 June 2011 20:18:16 UTC+10, Helmut Wabnig wrote:
>
>> What I learned is, a metallic boom requires a small +length correction
>> of the dipole elements. YAGICAD does it automatically with a cryptic
>> value called L+BCF (boom correction factor?)
>
> If you Google for "boom correction factor", you should find a wealth of discussion on the subject. It is not all cut and dried, it remains an area of active research.
>
> Owen

basically, it's all about coming up with a simple algorithm to allow the use of a simpler modeling code (i.e. model without boom, apply BCF, done).

It all depends on what is "good enough". On an HF beam, the elements typically sag a fair amount, and wave around in the wind. Furthermore, the boom is a tiny fraction of the element length so it has a "small" effect (e.g. 10cm boom on a 10m long element) . So the uncertainties in performance due to other mechanical factors are bigger than the effect of a boom.

On a 432 or 1296 yagi using a 2cm square tube as the boom, though, this is less the case. The elements are rigid, 2cm is a big fraction of a 35 cm long element. And, on VHF/UHF, one typically has a LOT more elements and a LOT more gain, so the tolerances on everything are much tighter to get the desired performance. If one were build a 5 wavelength long 20m Yagi (5 lambda isn't unusual for 2m or 70cm), you'd be worrying about those sorts of effects too, at least if you wanted to get the 17dBi gain that might be possible.

1574. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 16:52:14 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itqi7v$o8h$1@dont-email.me>
Source record: 4573

On 6/21/2011 2:17 AM, Owen Duffy wrote:
> On Tuesday, 21 June 2011 18:20:25 UTC+10, Helmut Wabnig wrote:
>> What influence has a metallic boom on a Yagi antenna?
>> Normally the design is made without taking the boom into
>> consideration.
>
> No necessarily, but it is common to design for a non-conductive boom and then make a correction to element lengths for the type of boom in use.
>>
>> http://yfrog.com/janextgen14p
>>
>> The voltage curves on the parasitic elements have their maximum
>> in the center. When using a non-conductive beam the situation is not
>> affected.
>
> That is not true.
>
>> With a metallic boom and with the parasitic elements fastened
>> to the metal would the oscillation pattern be changed?
>
> Depending on how the boom is or is not bonded to the element, and the geometry (sizes, position etc), the conductive boom may reduce the magnetic flux nearest to the element, effectively reducing its inductance in the middle area, so tuning it higher.
>
>> Do I have to insulate the parasitic elements from the metallic boom
>> or is it advisable and allowed to fix them with metal fasteners?
>> Does the connection have to be made electrically good,
>> or does it not matter at all?
>
> If the 'connection' has infinite R (ie no connection) or zero R, there is no power converted to heat, otherwise you invite conversion of RF energy to heat.
>>
>>
>> In fact there are both designs used, but probably without further
>> consideration. Some manufacturers use plastic holding clamps
>
> Not by competent designers, they consider the effects of the boom.
>
>> for mounting the elements, for no other reason than saving time
>> during assembly. Other manufacturers just drive a self cutting
>> thread screw through everything.
>>
>> The YAGICAD software does talk about mounting elements
>> on the boom, and NEC is too difficult for me to understand.

>>
>> Thank you in advance for your answers, and a sixpack
>> will be kept ready to compensate your efforts at your next visit.
>>
>
> The foregoing may challenge your thinking on the subject.
>
> Owen
>

An interesting experiment might be to cast the upper elements above a metal slab of 1/4 wave depth which extends a full wave out in all direction of the compass, in eznec/nec/mmana, and serves the purpose of the lower elements connected to a huge boom.

A comparison between a standard yagi and such a design should show a stark comparison of the importance/function of the lower/ground elements, between the two. Or, perhaps just the extension of the boom in the frontal and trailing directions would provide usable data.

In any case, I suspect the influence of the boom, in such a greatly exaggerated example, would be exposed in more defining light ...

What could be done to the upper elements, reflector(s) and director(s), to provide such a comparison(s) is a matter which provokes thought ...

Frankly, I don't even know if any antenna modeling software would allow such an "abuse."

Regards,
JS

1575. Re: Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 16:52:33 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <rbh107tchth8t4k2ftl7qav64lenb4o8gm@4ax.com>
Source record: 4574

On Mon, 20 Jun 2011 23:30:58 -0700, John Smith <bit_bucket@gmx.com>
wrote:

>Funny thing is, well, not really funny ... just the way that article is
>written is in the form of the brain washing which usually precedes the
>actual action(s!)

Yep. It does sound like a public relations article.

>I guess I am the lightweight here, just the thought and reading that
>article made me gag ... I thought it would provoke more anger in
>Americans ... I mean, if you don't get angry about people eating human
>feces, what is there which could possibly anger you?

You might want to travel a little. Most of the links to exotic foods
that I posted were from foreign countries. What we consider inedible
is common elsewhere. For example, in the west, we don't eat bugs
(insects). Yet, the rest of the planet has no problems with bugs.
With our present path toward inevitable doom, it's likely that some
manner of famine might become reality. It's then that we'll need to
expand our list of acceptable foods, or starve. If you've ever
survived a survival class, you'll understand the problem.

>I mean, have you ever considered the parasites which commonly inhabit
>the human gut, not to mention the dangerous diseases, viruses, fungus,
>prions, etc?

Sure, and that's the problem. With farm animals, it's a fair
assumption that the animals feces came from a fairly healthy animal.
With human waste, it's not such a great assumption. The extra junk
found in human feces are not easily processed. (Drugs, Bugs, and
Slugs; also known as medicine, bacteria, and parsites). While it can
be cleaned up with a mix of chemical and alpha-particle sterilization,
that makes it too expensive to be useful. I suspect that's where the
high cost of processing mentioned in the article originated.

>And to think, before this, I was worried about GMO foods and getting
>them labeled!

Known problems are not worth worrying about. It's problems that are
currently unknown or un-discovered, that are the real problem. That's
the real problem with GMO. We don't know what eating them will do,
therefore, we assume that it will be bad, and should avoid it.

>Now I am beginning to feel I am up "synthetic food" creek without a paddle!

We haven't even started talking about mining hydrocarbon compounds,
and cracking them into edible substances. Coal tar derivatives are
just the beginning. You could easily eat coal, with the appropriate
flavor and texture additives.
<http://pubs.acs.org/doi/abs/10.1021/ba-1966-0057.ch020>

Eat anything with with red dye? It's probably made by boiling
Cochineal bugs. That makes it a "natural" dye:
<http://en.wikipedia.org/wiki/Carmine>
Yummmmmm....

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1576. Re: Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 17:28:23 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itqkboarr1@dont-email.me>
Source record: 4577

On 6/21/2011 9:52 AM, Jeff Liebermann wrote:
> On Mon, 20 Jun 2011 23:30:58 -0700, John Smith<bit_bucket@gmx.com>
> wrote:
>
>> Funny thing is, well, not really funny ... just the way that article is
>> written is in the form of the brain washing which usually precedes the
>> actual action(s!)
>
> Yep. It does sound like a public relations article.
>
>> I guess I am the lightweight here, just the thought and reading that
>> article made me gag ... I thought it would provoke more anger in
>> Americans ... I mean, if you don't get angry about people eating human
>> feces, what is there which could possibly anger you?
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> You might want to travel a little. Most of the links to exotic foods
> that I posted were from foreign countries. What we consider inedible
> is common elsewhere. For example, in the west, we don't eat bugs
> (insects). Yet, the rest of the planet has no problems with bugs.
> With our present path toward inevitable doom, it's likely that some
> manner of famine might become reality. It's then that we'll need to
> expand our list of acceptable foods, or starve. If you've ever
> survived a survival class, you'll understand the problem.
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>> I mean, have you ever considered the parasites which commonly inhabit
>> the human gut, not to mention the dangerous diseases, viruses, fungus,
>> prions, etc?
>
> Sure, and that's the problem. With farm animals, it's a fair
> assumption that the animals feces came from a fairly healthy animal.
> With human waste, it's not such a great assumption. The extra junk
> found in human feces are not easily processed. (Drugs, Bugs, and
> Slugs; also known as medicine, bacteria, and parsites). While it can
> be cleaned up with a mix of chemical and alpha-particle sterilization,
> that makes it too expensive to be useful. I suspect that's where the
> high cost of processing mentioned in the article originated.
>
>> And to think, before this, I was worried about GMO foods and getting
>> them labeled!
>
> Known problems are not worth worrying about. It's problems that are
> currently unknown or un-discovered, that are the real problem. That's
> the real problem with GMO. We don't know what eating them will do,
> therefore, we assume that it will be bad, and should avoid it.

>
>> Now I am beginning to feel I am up "synthetic food" creek without a paddle!
>
> We haven't even started talking about mining hydrocarbon compounds,
> and cracking them into edible substances. Coal tar derivatives are
> just the beginning. You could easily eat coal, with the appropriate
> flavor and texture additives.
> <http://pubs.acs.org/doi/abs/10.1021/ba-1966-0057.ch020>
>
> Eat anything with with red dye? It's probably made by boiling
> Cochineal bugs. That makes it a "natural" dye:
> <http://en.wikipedia.org/wiki/Carmine>
> Yummmmmm....
>
>

On any scale which would compare the eating habits of a stone age race
to those eating habits today, it would not even register to the eating
of ones own feces, or ones own species feces, that is a real DUH! moment ...

However, your comment makes me consider that some will more willingly
come to consuming their own feces, than others ...

I mean, there is little problem with killing a chit eating dog, unless
that dog is ones own ... might serve as a proper mental model.

Regards,
JS

1577. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 19:58:00 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <b8b8bbb4-016f-4281-8622-a181e6b6db14@d19g2000prh.googlegroups.com>
Source record: 4578

On Jun 18, 6:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 18, 5:50 pm, K7ITM <k7...@msn.com> wrote:
>
> > For some reason, Google Groups won't let me see any postings to this
> > thread past June 13th.
>
> Tom, I had the same problem and clicking on "sort by date" solved the
> problem.
> --
> 73, Cecil, w5dxp.com

;-) Well, I'm not sure if you also sent that to my email address; I didn't see it there. And of course, I didn't see it here, since I never "sort by date" -- at least not till now, when I've managed to find a free newsgroup server where I can see the messages.

I'm happy to see that Owen has jumped into the thread with his usual well thought out postings. Measuring S-parameters (which includes reflection coefficients) and using them in calculations has been the topic of a great many articles. There are some good Hewlett-Packard notes on them that I believe you can get from the Agilent website, and if not there, from other archives. HP AN95-1 and HP/Agilent AN154 are a couple, but Googling "S Parameter Application Note" will get you lots more. Honestly, I'd have to say they are a better place to try to learn this sort of thing than threads here...

Cheers,
Tom

1578. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 21:54:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4c270619-a1b5-44f5-badb-ce4bd1e63783@d14g2000yqb.googlegroups.com>
Source record: 4579

On Jun 21, 2:58 pm, K7ITM <k7...@msn.com> wrote:
> ;-) Well, I'm not sure if you also sent that to my email address;

Yes, I did Tom, to the email address in your attribution line above.

> HP AN95-1

Available at:

http://www.sss-mag.com/pdf/an-95-1.pdf

One interesting thing about the s-parameter equations is that if one
squares them, one obtains the irradiance (power density) equation from
the field of optics. For instance:

b1 = s11*a1 + s12*a2

are the normalized voltages where b1^2 is the reflected power toward
the source. Squaring the right side of the equation uncovers the
interference term, 2*s11*a1*s12*a2. If that term is positive, the
interference is constructive. If that term is negative, the
interference is destructive. Zero reflected power toward the source
indicates total destructive interference toward the source and that is
the goal of tuning a system to zero reflected power incident upon the
source.
--
73, Cecil, w5dxp.com

1579. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-21 22:17:18 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <itr59e$1os$1@news.jpl.nasa.gov>
Source record: 4580

On 6/21/2011 9:52 AM, John Smith wrote:
> On 6/21/2011 2:17 AM, Owen Duffy wrote:
>> On Tuesday, 21 June 2011 18:20:25 UTC+10, Helmut Wabnig wrote:
>>> What influence has a metallic boom on a Yagi antenna?
>>> Normally the design is made without taking the boom into
>>> consideration.
>>
>> No necessarily, but it is common to design for a non-conductive boom
>> and then make a correction to element lengths for the type of boom in
>> use.
>>>
>>> http://yfrog.com/janextgen14p
>>>
>>> The voltage curves on the parasitic elements have their maximum
>>> in the center. When using a non-conductive beam the situation is not
>>> affected.
>>
>> That is not true.
>>
>>> With a metallic boom and with the parasitic elements fastened
>>> to the metal would the oscillation pattern be changed?
>>
>> Depending on how the boom is or is not bonded to the element, and the
>> geometry (sizes, position etc), the conductive boom may reduce the
>> magnetic flux nearest to the element, effectively reducing its
>> inductance in the middle area, so tuning it higher.
>>
>>> Do I have to insulate the parasitic elements from the metallic boom
>>> or is it advisable and allowed to fix them with metal fasteners?
>>> Does the connection have to be made electrically good,
>>> or does it not matter at all?
>>
>> If the 'connection' has infinite R (ie no connection) or zero R, there
>> is no power converted to heat, otherwise you invite conversion of RF
>> energy to heat.
>>>
>>>
>>> In fact there are both designs used, but probably without further
>>> consideration. Some manufacturers use plastic holding clamps
>>
>> Not by competent designers, they consider the effects of the boom.
>>
>>> for mounting the elements, for no other reason than saving time
>>> during assembly. Other manufacturers just drive a self cutting

>>> thread screw through everything.
>>>
>>> The YAGICAD software does talk about mounting elements
>>> on the boom, and NEC is too difficult for me to understand.
>>>
>>> Thank you in advance for your answers, and a sixpack
>>> will be kept ready to compensate your efforts at your next visit.
>>>
>>
>> The foregoing may challenge your thinking on the subject.
>>
>> Owen
>>
>
> An interesting experiment might be to cast the upper elements above a
> metal slab of 1/4 wave depth which extends a full wave out in all
> direction of the compass, in eznec/nec/mmana, and serves the purpose of
> the lower elements connected to a huge boom.

I'm having a tough time visualizing what you're describing. Half
elements sticking up from a "perfectly conductive plane"?
>
> A comparison between a standard yagi and such a design should show a
> stark comparison of the importance/function of the lower/ground
> elements, between the two. Or, perhaps just the extension of the boom in
> the frontal and trailing directions would provide usable data.

IN general, the boom extending front or back doesn't make a big
difference. If I had to "rule of thumb" it, I'd say that the
"influence" of the boom is several element radii.

>
> In any case, I suspect the influence of the boom, in such a greatly
> exaggerated example, would be exposed in more defining light ...
>
> What could be done to the upper elements, reflector(s) and director(s),
> to provide such a comparison(s) is a matter which provokes thought ...
>
> Frankly, I don't even know if any antenna modeling software would allow
> such an "abuse."
>

Step right up and fire up that copy of HFSS or ADS

in most modern codes you can model *anything* given sufficient time to
build the model and run it. If you have lots of big chunks of "stuff" a
method of moments code like NEC might not be the best choice. One of
the FDTD or similar codes might be better.

1580. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-22 01:47:53 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itrhk9$2ou$3@dont-email.me>
Source record: 4581

On 6/21/2011 3:17 PM, Jim Lux wrote:
> On 6/21/2011 9:52 AM, John Smith wrote:
>> On 6/21/2011 2:17 AM, Owen Duffy wrote:
>>> On Tuesday, 21 June 2011 18:20:25 UTC+10, Helmut Wabnig wrote:
>>>> What influence has a metallic boom on a Yagi antenna?
>>>> Normally the design is made without taking the boom into
>>>> consideration.
>>>
>>> No necessarily, but it is common to design for a non-conductive boom
>>> and then make a correction to element lengths for the type of boom in
>>> use.
>>>>
>>>> http://yfrog.com/janextgen14p
>>>>
>>>> The voltage curves on the parasitic elements have their maximum
>>>> in the center. When using a non-conductive beam the situation is not
>>>> affected.
>>>
>>> That is not true.
>>>
>>>> With a metallic boom and with the parasitic elements fastened
>>>> to the metal would the oscillation pattern be changed?
>>>
>>> Depending on how the boom is or is not bonded to the element, and the
>>> geometry (sizes, position etc), the conductive boom may reduce the
>>> magnetic flux nearest to the element, effectively reducing its
>>> inductance in the middle area, so tuning it higher.
>>>
>>>> Do I have to insulate the parasitic elements from the metallic boom
>>>> or is it advisable and allowed to fix them with metal fasteners?
>>>> Does the connection have to be made electrically good,
>>>> or does it not matter at all?
>>>
>>> If the 'connection' has infinite R (ie no connection) or zero R, there
>>> is no power converted to heat, otherwise you invite conversion of RF
>>> energy to heat.
>>>>
>>>>
>>>> In fact there are both designs used, but probably without further
>>>> consideration. Some manufacturers use plastic holding clamps
>>>
>>> Not by competent designers, they consider the effects of the boom.
>>>
>>>> for mounting the elements, for no other reason than saving time

>>>> during assembly. Other manufacturers just drive a self cutting
>>>> thread screw through everything.
>>>>
>>>> The YAGICAD software does talk about mounting elements
>>>> on the boom, and NEC is too difficult for me to understand.
>>>>
>>>> Thank you in advance for your answers, and a sixpack
>>>> will be kept ready to compensate your efforts at your next visit.
>>>>
>>>
>>> The foregoing may challenge your thinking on the subject.
>>>
>>> Owen
>>>
>>
>> An interesting experiment might be to cast the upper elements above a
>> metal slab of 1/4 wave depth which extends a full wave out in all
>> direction of the compass, in eznec/nec/mmana, and serves the purpose of
>> the lower elements connected to a huge boom.
>
> I'm having a tough time visualizing what you're describing. Half
> elements sticking up from a "perfectly conductive plane"?
>>

A slab of aluminum 1/4 wave deep and extending a full wavelength is all
directions is about as perfect a conductor/elevated-pseudo-ground as I
could ever imagine ... yep, you pictured it correctly ...

>> A comparison between a standard yagi and such a design should show a
>> stark comparison of the importance/function of the lower/ground
>> elements, between the two. Or, perhaps just the extension of the boom in
>> the frontal and trailing directions would provide usable data.
>
> IN general, the boom extending front or back doesn't make a big
> difference. If I had to "rule of thumb" it, I'd say that the "influence"
> of the boom is several element radii.
>

Certainly for the front director, and back reflector, it would look as
two legs of the ground plane from a vertical ground plane antenna --
with the bottom dipole element still attached ...

>
>>
>> In any case, I suspect the influence of the boom, in such a greatly
>> exaggerated example, would be exposed in more defining light ...
>>
>> What could be done to the upper elements, reflector(s) and director(s),
>> to provide such a comparison(s) is a matter which provokes thought ...
>>
>> Frankly, I don't even know if any antenna modeling software would allow

>> such an "abuse."
>>
>
>
> Step right up and fire up that copy of HFSS or ADS
>
> in most modern codes you can model *anything* given sufficient time to
> build the model and run it. If you have lots of big chunks of "stuff" a
> method of moments code like NEC might not be the best choice. One of the
> FDTD or similar codes might be better.

Having all the antenna I want, at this time, I am just too lazy to load up mmana and see the results ... most run-of-the-mill and been-around-forever antennas have pretty much been optimized for cost of materials/work to benefit ratio ... I don't think I have seen anything new, or even claimed to be new, in decades ... or longer!

Regards,
JS

1581. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-22 13:49:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <55831c13-5ab5-4eba-b099-d1dee1761aa1@r21g2000pri.googlegroups.com>
Source record: 4582

Let's return to an earlier example and compare a single-port analysis
with a dual-port analysis.

100w
source--50 ohm--+--1/2WL 291.4 ohm--50 ohm load

The 50 ohm Z0-match point is at '+'. The forward power on the 50 ohm
line is 100 watts and the reflected power on the 50 ohm line is zero
watts. The forward power on the 291.4 ohm line is 200 watts and the
reflected power on the 291.4 ohm line is 100 watts. 100 watts is being
sourced and delivered to the 50 ohm load.

The voltage reflection coefficient, rho, at the load is (50-291.4)/
(50+291.4)=0.7071. The power reflection coefficient, rho^2, at the
load is 0.5, i.e. half of the power incident upon the load (200w) is
reflected (100w). Since the load is a single-port, these parameters
are consistent with a single-port analysis. In a single-port analysis,
we cannot tell the difference between a virtual reflection coefficient
and a physical reflection coefficient.

The problem comes when we use a single-port analysis on the Z0-match
point. Since the reflected power on the 50 ohm line is zero, a single-
port analysis would yield rho=0.0 and rho^2=0.0 when viewing the Z0-
match from the source side. When we perform a dual-port analysis, we
get different values for rho and rho^2, i.e. we get the complement of
the reflection coefficients at the load which is a characteristic of
any simple Z0-match similar to the above example.

For a dual-port analysis, rho looking into the Z0-match from the
source side is (291.4-50)/(291.4+50)=0.7071 and rho^2 looking into the
Z0-match from the source side is 0.5, the same as at the load. Looking
back into the Z0-match from the load side, the sign of rho is negative
just as it is at the load with rho^2=0.5, the same as at the load.

Since the two analyses yield different values for the reflection
coefficients, which analysis is correct? The answer gives the clue to
the resolution of this discussion.
--
73, Cecil, w5dxp.com

1582. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-22 16:16:30 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <itt4gu$lv0$1@news.jpl.nasa.gov>
Source record: 4583

On 6/21/2011 6:47 PM, John Smith wrote:

> Having all the antenna I want, at this time, I am just too lazy to load
> up mmana and see the results ... most run-of-the-mill and
> been-around-forever antennas have pretty much been optimized for cost of
> materials/work to benefit ratio ... I don't think I have seen anything
> new, or even claimed to be new, in decades ... or longer!
>

I think you're generally right. What the tools give you is the ability to make a "semi-custom" design that's optimized for a purpose slightly different than everyone else.

For instance, you might want a 20m Yagi that's optimized for 14.300 as opposed to 14.050 or something.

Various and sundry multiband schemes also come to mind. Lots of alternatives for element layout, lots of potential interactions. And these designs are not well accommodated by analytical techniques or cut and try on the physical article (because of the interactions at frequencies well away from the resonant frequencies of some elements). Doing something like a Force-12 C3 tribander by cut and try would be tedious at best.

In the VHF/UHF world, where very high directivity is the rule, and people worry a lot about side/back lobes (for antenna noise temperature reasons), and because the structure is significant in size compared to the elements, I think modeling codes are almost essential. And, there's lots of alternatives to look at (element through the boom, on top of the boom, connected or not, spacer or not, etc.)

1583. Re: Burgers and coke at your next antenna party?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-22 21:11:43 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <ittlqf$9ku$4@dont-email.me>
Source record: 4584

On 6/20/2011 4:47 PM, Sal M. Onella wrote:
> On Jun 19, 9:07 pm, John Smith<bit_buc...@gmx.com> wrote:
>> http://www.foxnews.com/scitech/2011/06/17/japanese-scientists-create-...
>>
>> Antenna parties will never be the same, you will be the topic of every
>> rag chew from coast to coast! I bet your mouth is watering and you can
>> just imagine the smell coming of a couple of those burgers on your BBQ.
>>
>> I am telling you, you just can't make chit like this up, luckily, the
>> japanese can! ROFLOL!
>>
>
> I'm rapidly losing my respect for the Japanese*. No joke.
>
> There's a reason it smells bad -- you're supposed to leave it alone.
>
> "Sal"
>
> * or for Fox News, if they allowed a hoax to go out as news.

One thing I always like doing is shopping for pet food with the wife,
and especially reading the labels ...

"Animal Digest" is a nice term on some of the cans and packages, and
basically translates into, "Stomach, intestines and anus -- AND THEIR
CONTENTS, all are included for your pets personal enjoyment!"

I just quietly put back the container, and quickly look around to see if
anyone has seen me touch it ...

Regards,
JS

1584. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-22 22:24:18 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <7bae2e1c-6fc6-469e-be5b-08f3bea80e7f@d7g2000vbv.googlegroups.com>
Source record: 4585

On Jun 22, 1:49 pm, Cecil Moore <w5...@hotmail.com> wrote:
> Let's return to an earlier example and compare a single-port analysis
> with a dual-port analysis.
>
> 100w
> source--50 ohm--+--1/2WL 291.4 ohm--50 ohm load
>
> The 50 ohm Z0-match point is at '+'. The forward power on the 50 ohm
> line is 100 watts and the reflected power on the 50 ohm line is zero
> watts. The forward power on the 291.4 ohm line is 200 watts and the
> reflected power on the 291.4 ohm line is 100 watts. 100 watts is being
> sourced and delivered to the 50 ohm load.
>
> The voltage reflection coefficient, rho, at the load is (50-291.4)/
> (50+291.4)=0.7071. The power reflection coefficient, rho^2, at the
> load is 0.5, i.e. half of the power incident upon the load (200w) is
> reflected (100w). Since the load is a single-port, these parameters
> are consistent with a single-port analysis. In a single-port analysis,
> we cannot tell the difference between a virtual reflection coefficient
> and a physical reflection coefficient.
>
> The problem comes when we use a single-port analysis on the Z0-match
> point. Since the reflected power on the 50 ohm line is zero, a single-
> port analysis would yield rho=0.0 and rho^2=0.0 when viewing the Z0-
> match from the source side. When we perform a dual-port analysis, we
> get different values for rho and rho^2, i.e. we get the complement of
> the reflection coefficients at the load which is a characteristic of
> any simple Z0-match similar to the above example.
>
> For a dual-port analysis, rho looking into the Z0-match from the
> source side is (291.4-50)/(291.4+50)=0.7071 and rho^2 looking into the
> Z0-match from the source side is 0.5, the same as at the load. Looking
> back into the Z0-match from the load side, the sign of rho is negative
> just as it is at the load with rho^2=0.5, the same as at the load.
>
> Since the two analyses yield different values for the reflection
> coefficients, which analysis is correct? The answer gives the clue to
> the resolution of this discussion.
> --
> 73, Cecil, w5dxp.com

ok, i'm afraid i'm going to have to ask the simple question... if you
blackbox the load and stub and look at just the one connection to it
and that gives you no reflected power... where do you define the

second port, and why?

1585. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 00:50:09 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itu2k1$4bp$5@dont-email.me>
Source record: 4586

On 6/22/2011 3:24 PM, dave wrote:
> On Jun 22, 1:49 pm, Cecil Moore<w5...@hotmail.com> wrote:
>> Let's return to an earlier example and compare a single-port analysis
>> with a dual-port analysis.
>>
>> 100w
>> source--50 ohm--+--1/2WL 291.4 ohm--50 ohm load
>>
>> The 50 ohm Z0-match point is at '+'. The forward power on the 50 ohm
>> line is 100 watts and the reflected power on the 50 ohm line is zero
>> watts. The forward power on the 291.4 ohm line is 200 watts and the
>> reflected power on the 291.4 ohm line is 100 watts. 100 watts is being
>> sourced and delivered to the 50 ohm load.
>>
>> The voltage reflection coefficient, rho, at the load is (50-291.4)/
>> (50+291.4)=0.7071. The power reflection coefficient, rho^2, at the
>> load is 0.5, i.e. half of the power incident upon the load (200w) is
>> reflected (100w). Since the load is a single-port, these parameters
>> are consistent with a single-port analysis. In a single-port analysis,
>> we cannot tell the difference between a virtual reflection coefficient
>> and a physical reflection coefficient.
>>
>> The problem comes when we use a single-port analysis on the Z0-match
>> point. Since the reflected power on the 50 ohm line is zero, a single-
>> port analysis would yield rho=0.0 and rho^2=0.0 when viewing the Z0-
>> match from the source side. When we perform a dual-port analysis, we
>> get different values for rho and rho^2, i.e. we get the complement of
>> the reflection coefficients at the load which is a characteristic of
>> any simple Z0-match similar to the above example.
>>
>> For a dual-port analysis, rho looking into the Z0-match from the
>> source side is (291.4-50)/(291.4+50)=0.7071 and rho^2 looking into the
>> Z0-match from the source side is 0.5, the same as at the load. Looking
>> back into the Z0-match from the load side, the sign of rho is negative
>> just as it is at the load with rho^2=0.5, the same as at the load.
>>
>> Since the two analyses yield different values for the reflection
>> coefficients, which analysis is correct? The answer gives the clue to
>> the resolution of this discussion.
>> --
>> 73, Cecil, w5dxp.com
>
> ok, i'm afraid i'm going to have to ask the simple question... if you
> blackbox the load and stub and look at just the one connection to it

> and that gives you no reflected power... where do you define the
> second port, and why?

Logic, immediately, suggests to me, that varying the frequency and measuring voltage, amperage, and SWR would begin to immediately point the answer(s.)

Regards,
JS

1586. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 00:52:08 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itu2np$4bp$6@dont-email.me>
Source record: 4587

On 6/22/2011 5:50 PM, John Smith wrote:
> On 6/22/2011 3:24 PM, dave wrote:
>> On Jun 22, 1:49 pm, Cecil Moore<w5...@hotmail.com> wrote:
>>> Let's return to an earlier example and compare a single-port analysis
>>> with a dual-port analysis.
>>>
>>> 100w
>>> source--50 ohm--+--1/2WL 291.4 ohm--50 ohm load
>>>
>>> The 50 ohm Z0-match point is at '+'. The forward power on the 50 ohm
>>> line is 100 watts and the reflected power on the 50 ohm line is zero
>>> watts. The forward power on the 291.4 ohm line is 200 watts and the
>>> reflected power on the 291.4 ohm line is 100 watts. 100 watts is being
>>> sourced and delivered to the 50 ohm load.
>>>
>>> The voltage reflection coefficient, rho, at the load is (50-291.4)/
>>> (50+291.4)=0.7071. The power reflection coefficient, rho^2, at the
>>> load is 0.5, i.e. half of the power incident upon the load (200w) is
>>> reflected (100w). Since the load is a single-port, these parameters
>>> are consistent with a single-port analysis. In a single-port analysis,
>>> we cannot tell the difference between a virtual reflection coefficient
>>> and a physical reflection coefficient.
>>>
>>> The problem comes when we use a single-port analysis on the Z0-match
>>> point. Since the reflected power on the 50 ohm line is zero, a single-
>>> port analysis would yield rho=0.0 and rho^2=0.0 when viewing the Z0-
>>> match from the source side. When we perform a dual-port analysis, we
>>> get different values for rho and rho^2, i.e. we get the complement of
>>> the reflection coefficients at the load which is a characteristic of
>>> any simple Z0-match similar to the above example.
>>>
>>> For a dual-port analysis, rho looking into the Z0-match from the
>>> source side is (291.4-50)/(291.4+50)=0.7071 and rho^2 looking into the
>>> Z0-match from the source side is 0.5, the same as at the load. Looking
>>> back into the Z0-match from the load side, the sign of rho is negative
>>> just as it is at the load with rho^2=0.5, the same as at the load.
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>>> Since the two analyses yield different values for the reflection
>>> coefficients, which analysis is correct? The answer gives the clue to
>>> the resolution of this discussion.
>>> --
>>> 73, Cecil, w5dxp.com
>>
>> ok, i'm afraid i'm going to have to ask the simple question... if you

>> blackbox the load and stub and look at just the one connection to it
>> and that gives you no reflected power... where do you define the
>> second port, and why?
>
> Logic, immediately, suggests to me, that varying the frequency and
> measuring voltage, amperage, and SWR would begin to immediately point
> the answer(s.)
>
> Regards,
> JS
>

A 50 ohm, non-reactive/carbon load would complicate matters, so
naturally, I am assuming that is NOT the case ...

Regards,
JS

1587. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 02:09:11 UTC
From: tom <news4792@taring.org>
Message-ID: <4e02a043$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4588

On 6/21/2011 3:20 AM, Helmut Wabnig wrote:
> What influence has a metallic boom on a Yagi antenna?
> Normally the design is made without taking the boom into
> consideration.
>
> http://yfrog.com/janextgen14p
>
> The voltage curves on the parasitic elements have their maximum
> in the center. When using a non-conductive beam the situation is not
> affected.

The current is maximum at the center, not the voltage.
>
> With a metallic boom and with the parasitic elements fastened
> to the metal would the oscillation pattern be changed?

At HF the effect is normally minimal depending on the mounting method used. Using insulated through the boom mounting it starts to be noticeable at 2m and by 70cm it definitely needs to be compensated for. 1 and 1/4 inch booms using Delrin through the boom mounts at 432 need about 7mm added.

The previous statements assume you don't use insanely large booms and mounting pieces.

tom
K0TAR

1588. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 02:31:27 UTC
From: tom <news4792@taring.org>
Message-ID: <4e02a580$0$74952$8046368a@newsreader.iphouse.net>
Source record: 4589

On 6/21/2011 11:13 AM, Jim Lux wrote:
>
> It does matter. What you really don't want is something that changes.
> Either always connected or always insulated is what you want.

Dead right.

This seems to be one reason why yagis at HF tend to be grounded elements and at VHF and up tend to be insulated. At HF it's fairly easy to get a low resistance with fairly low impedance change over a few years. That's harder to do at VHF especially with through the boom uninsulated. Hence through-the-boom or over-the-boom insulated at 2m and up.

I've built many 6m beams with no correction added and using simple homebrew U clamps. I have seen little discernible difference in their performance from predicted. Of course I shouldn't except perhaps in the side nulls. And they seemed about right. One small confirmation was the SWR curve also matched predicted.

Anyway, the problem with connected is corrosion. Can only slow it down.

tom
K0TAR

1589. Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 05:13:28 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <itui1o$fm1$2@dont-email.me>
Source record: 4590

http://www.nature.com/news/2011/110603/full/news.2011.346.html

Is it finally a valid way in which we can interact/view the invisible?

Regards,
JS

1590. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 12:43:15 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <45d78617-b8be-4e07-9803-bb5f9a480f9b@b21g2000yqc.googlegroups.com>
Source record: 4591

On Jun 22, 5:24 pm, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
> ok, i'm afraid i'm going to have to ask the simple question... if you
> blackbox the load and stub and look at just the one connection to it
> and that gives you no reflected power... where do you define the
> second port, and why?

For the two-port analysis, only the impedance discontinuity at point
'x' is in the black box. One port is the source side of the impedance
discontinuity. The second port is the load side of the impedance
discontinuity. It allows the standard s-parameters to be measured and
the standard s-parameter equations to be used.

On the source side of the impedance discontinuity:

b1 = s11(a1) + s12(a2)

On the load side of the impedance discontinuity:

b2 = s21(a1) + s22(a2)

Those are the normalized voltage equations. Squaring those equations
shows what happens to the component powers including interference
components. Reference:

http://www.sss-mag.com/pdf/an-95-1.pdf
--
73, Cecil, w5dxp.com

1591. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 12:59:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fe27c7dd-ffcc-4e64-8e22-6bb7492afd50@j13g2000pro.googlegroups.com>
Source record: 4592

On Jun 22, 7:52 pm, John Smith <bit_buc...@gmx.com> wrote:
> A 50 ohm, non-reactive/carbon load would complicate matters, so
> naturally, I am assuming that is NOT the case ...

IMO, the resistor load simplifies things as a single-port analysis can be used on a resistor because there is only one component of power accepted by the resistor. What would complicate things, IMO, is a 50 ohm antenna feedpoint impedance which is a virtual impedance. Analyzing the antenna as a multiple port device shows where the multiple energy components go which is a complication of the present point I am trying to make about the Z0-match point 'x'.

However, the single-port vs dual-port analysis differences at the impedance discontinuity 'x' also apply to the analysis at the load resistor vs an antenna AND at the source where Walt seems to be using a single-port analysis involving a virtual source impedance which depends for its very existence upon forward and reflected energy components flowing in opposite directions at the source impedance point which necessarily causes interference accompanied by a redistribution, not a reflection, of energy components.
--
73, Cecil, w5dxp.com

1592. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 13:10:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f51c35e4-5548-4a96-a538-f4e759e96755@y13g2000prb.googlegroups.com>
Source record: 4593

On Jun 23, 12:13 am, John Smith <bit_buc...@gmx.com> wrote:
> Is it finally a valid way in which we can interact/view the invisible?

Not only does the aether actually exist, it can be photographed.:) The
error that the old-time physicists made was assuming that the aether
was made of ordinary matter instead of exotic quantum particles.
--
73, Cecil, w5dxp.com

1593. FS Heath HM-2102 VHF SWR power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 15:53:11 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <itvnh2puf1@dont-email.me>
Source record: 4594

I have a Heath HM-2102 VHF SWR power meter 50-160 MHz
0-25 and 0-250 watts. Excellent condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

1594. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 16:34:57 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <itvpvh$hc5$1@news.jpl.nasa.gov>
Source record: 4595

On 6/22/2011 7:31 PM, tom wrote:

> I've built many 6m beams with no correction added and using simple
> homebrew U clamps. I have seen little discernible difference in their
> performance from predicted. Of course I shouldn't except perhaps in the
> side nulls. And they seemed about right. One small confirmation was the
> SWR curve also matched predicted.
>

Based on a fair number of simulations over the years, I'd say that SWR curves are not very sensitive to pattern degradation (except in an egregious case)..

Consider a 5 element medium gain Yagi where the currents are all roughly equal (which is what you'd have with moderate superdirectivity) and it has a F/B ratio of, say, 20dB.

Screw up the current in one of the elements by, say, 25% (so the overall excitation is now off by 5%).. That's enough to turn your -20dB null into a -10dB null (in round numbers..)

But, would you even see that in a VSWR.. say it was 1.2:1 before (reflection coefficient = 0.09).. and now the reflection coefficient changes by 5%.. so it's 0.0945.. That's a VSWR of 1.208.. I think you'd have a hard time measuring that..

1595. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 18:58:58 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <iu02di$23n$4@dont-email.me>
Source record: 4596

On 6/23/2011 6:10 AM, Cecil Moore wrote:
> On Jun 23, 12:13 am, John Smith<bit_buc...@gmx.com> wrote:
>> Is it finally a valid way in which we can interact/view the invisible?
>
> Not only does the aether actually exist, it can be photographed.:) The
> error that the old-time physicists made was assuming that the aether
> was made of ordinary matter instead of exotic quantum particles.
> --
> 73, Cecil, w5dxp.com

I thought you might enjoy that Cecil ... I know you were really worried that RF would be failing us soon, due to a lack of suitable media ... ROFLOL!

I am sure you noticed these "jewels in the article:"

"The limit means that more virtual photons exist outside the mirrors than between them, creating a force that pushes the plates together. This 'Casimir force' is strong enough at short distances for scientists to physically measure it." -- From the article, itself.

"David - Dr. Wilson's article (ref. 1 for the article) is the source of my statement that linear acceleration cannot produce "this effect". It seems that "this effect" is the dynamical Casimir effect. The Unruh effect is something different (but definitely related). In any case, I thank you for your clarification." -- From a post, further down.

Things are happening ... finally the squeeky wheel gets some much needed maintenance ...

Regards,
JS

1596. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 19:22:11 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <iu03p4$23n$5@dont-email.me>
Source record: 4597

On 6/23/2011 5:59 AM, Cecil Moore wrote:
> On Jun 22, 7:52 pm, John Smith<bit_buc...@gmx.com> wrote:
>> A 50 ohm, non-reactive/carbon load would complicate matters, so
>> naturally, I am assuming that is NOT the case ...
>
> IMO, the resistor load simplifies things as a single-port analysis can
> be used on a resistor because there is only one component of power
> accepted by the resistor. What would complicate things, IMO, is a 50
> ohm antenna feedpoint impedance which is a virtual impedance.
> Analyzing the antenna as a multiple port device shows where the
> multiple energy components go which is a complication of the present
> point I am trying to make about the Z0-match point 'x'.
>
> However, the single-port vs dual-port analysis differences at the
> impedance discontinuity 'x' also apply to the analysis at the load
> resistor vs an antenna AND at the source where Walt seems to be using
> a single-port analysis involving a virtual source impedance which
> depends for its very existence upon forward and reflected energy
> components flowing in opposite directions at the source impedance
> point which necessarily causes interference accompanied by a
> redistribution, not a reflection, of energy components.
> --
> 73, Cecil, w5dxp.com

But cecil, with a 50 ohm NON-inductive load (not inductive over all freqs of concern), fed by 50 ohm line, from a 50 ohm source ... would find a stub a bit of a problem ... indeed, a shorted stub more so -- choice of proper line length and placement of the stub would allow its' use, on very limited frequencies, with excellent dummy load results, but the need, ever, escapes me!

Anyway, I just commented to piss old dave off ... :-) I admit it!

Regards,
JS

1597. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 21:41:07 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <325d3d69-c13f-4b69-a4df-4404a7311b31@j25g2000vbr.googlegroups.com>
Source record: 4598

On Jun 23, 12:43 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 22, 5:24 pm, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
>
> > ok, i'm afraid i'm going to have to ask the simple question... if you
> > blackbox the load and stub and look at just the one connection to it
> > and that gives you no reflected power... where do you define the
> > second port, and why?
>
> For the two-port analysis, only the impedance discontinuity at point
> 'x' is in the black box. One port is the source side of the impedance
> discontinuity. The second port is the load side of the impedance
> discontinuity. It allows the standard s-parameters to be measured and
> the standard s-parameter equations to be used.
>
> On the source side of the impedance discontinuity:
>
> b1 = s11(a1) + s12(a2)
>
> On the load side of the impedance discontinuity:
>
> b2 = s21(a1) + s22(a2)
>
> Those are the normalized voltage equations. Squaring those equations
> shows what happens to the component powers including interference
> components. Reference:
>
> http://www.sss-mag.com/pdf/an-95-1.pdf
> --
> 73, Cecil, w5dxp.com

but what is your second source? you can always represent the second
source in that case in terms of the transmitter output so the second
input can be eliminated giving you a single port model.

1598. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-23 23:11:51 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iu0h7k$q02u$1@tr22n12.aset.psu.edu>
Source record: 4599

On 6/23/2011 9:10 AM, Cecil Moore wrote:
> On Jun 23, 12:13 am, John Smith<bit_buc...@gmx.com> wrote:
>> Is it finally a valid way in which we can interact/view the invisible?
>
> Not only does the aether actually exist, it can be photographed.:) The
> error that the old-time physicists made was assuming that the aether
> was made of ordinary matter instead of exotic quantum particles.

Do you actually see any relation between quanta and aether theory?

- 73 de Mike N3LI -

1599. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 00:11:19 UTC
From: John Smith <bit_bucket@gmx.com>
Message-ID: <iu0kn8$4lo$1@dont-email.me>
Source record: 4600

On 6/23/2011 4:11 PM, Mike Coslo wrote:

[nothing, really ...]

Seems even Einstein removed it from the realm of "ponderable media", and
you have known all along, what it is ... enlighten the rest of us, and
we can see the revelation you have had!

And, let me see, ether vs. quantum sized particles? Any relationship?
NAAAA! ROFLOL!

It is like Einstein was never understood in the first place. It is like
this is the first time these people have been exposed to what he said,
like they will need time to digest all this ... simply amazing ...
correct me if I am mistaken, but the ether defines our very matter and
describes the laws which that matter must obey, right? The ether is the
rod and measure, right? If a universal clock and time frame exists, it
exists only within the ether, right?

If you don't say yes to all the above, I can only think you a kook, or
unable to understand what has been written and, generally, accepted ...
of course, it is being questioned, as it should be ...

"He went on to add ï¿½Weï¿½re in a very special moment of history, because
we are like fish who finally realized we were living in water."
http://thedartmouth.com/2010/05/07/news/space

All I know is the ether is a media, it is invisible to us, its'
properties can only be "deduced" (or, guessed at), or seen though its'
action/effects on "our matter. Yet, you can now tell me that the ether
is NOT the subject of that article ... I'd say you either:

1) Have knowledge no other man has.

2) Have iron balls the size of bowling balls.

3) Are a moron.

I am pretty close to making up my mind ... ROFLOL!

If the ether is ever denied, it will be because some idiot, such as
yourself, will step up and say, once it is fully "discovered", "THAT
ISN'T IT! BECAUSE OF _BLANK_ ." And, attempt to ignore that Einstein,
and very PURPOSEFULLY, left a place marker for the gravitational ether,
in removing it from the realm of ponderable matter ... so, whatever IS
the media which carries light and RF, whatever the media is which
establishes the speed limit on light, whatever media is the UTF
(universal time frame), whatever media composes "spacetime", "quantum

foam", that IS the ether ...

What the hell are you looking for, easter eggs? Or, just some
half-baked ego-centered way to deny ether? Really, I can't even see the
purpose, just the insanity!

Regards,
JS

1600. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 00:59:48 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu0ni6$mp0$1@dont-email.me>
Source record: 4401

On 6/23/2011 6:11 PM, Mike Coslo wrote:
> On 6/23/2011 9:10 AM, Cecil Moore wrote:
>> On Jun 23, 12:13 am, John Smith<bit_buc...@gmx.com> wrote:
>>> Is it finally a valid way in which we can interact/view the invisible?
>>
>> Not only does the aether actually exist, it can be photographed.:) The
>> error that the old-time physicists made was assuming that the aether
>> was made of ordinary matter instead of exotic quantum particles.
>
> Do you actually see any relation between quanta and aether theory?
>
> - 73 de Mike N3LI -

Mike -

Disregard this troll character. He attempts to disrupt the s.e.design group with his spewing venom to no end.

He apparently has no life except to make people respond to him on news groups.

73,
John

1601. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 03:54:57 UTC
From: tom <news4792@taring.org>
Message-ID: <4e040a92$0$74947$8046368a@newsreader.iphouse.net>
Source record: 4402

On 6/23/2011 11:34 AM, Jim Lux wrote:
> On 6/22/2011 7:31 PM, tom wrote:
>
>> I've built many 6m beams with no correction added and using simple
>> homebrew U clamps. I have seen little discernible difference in their
>> performance from predicted. Of course I shouldn't except perhaps in the
>> side nulls. And they seemed about right. One small confirmation was the
>> SWR curve also matched predicted.
>>
>
>
> Based on a fair number of simulations over the years, I'd say that SWR
> curves are not very sensitive to pattern degradation (except in an
> egregious case)..
>
> Consider a 5 element medium gain Yagi where the currents are all roughly
> equal (which is what you'd have with moderate superdirectivity) and it
> has a F/B ratio of, say, 20dB.
>
> Screw up the current in one of the elements by, say, 25% (so the overall
> excitation is now off by 5%).. That's enough to turn your -20dB null
> into a -10dB null (in round numbers..)
>
> But, would you even see that in a VSWR.. say it was 1.2:1 before
> (reflection coefficient = 0.09).. and now the reflection coefficient
> changes by 5%.. so it's 0.0945.. That's a VSWR of 1.208.. I think you'd
> have a hard time measuring that..
>

You are correct. I have also measured gain and F/B and side patterns.
And they match predicted quite well.

One design was a 7.5 wavelength 432 EME antenna which had nice ground
noise performance in real world use. Which is very pattern sensitive.

tom
K0TAR

1602. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 08:20:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4e0448e0$0$2484$65785112@news.neostrada.pl>
Source record: 4403

"Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:f51c35e4-5548-4a96-a538-f4e759e96755@y13g2000prb.googlegroups.com...
On Jun 23, 12:13 am, John Smith <bit_buc...@gmx.com> wrote:
>> Is it finally a valid way in which we can interact/view the invisible?

>Not only does the aether actually exist, it can be photographed.:) The
error that the old-time physicists made was assuming that the aether
was made of ordinary matter instead of exotic quantum particles.

Faraday's aether was made of ions and electrons (like copper). Todays space
is made of rare plasma and dust. The most of old-time physicists need the
exotic aether to explain the light polarization. For Faraday the rare plasma
and its vibrations are enough to explain all phenomena.
S*

1603. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 11:27:23 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <29a00369-f0bd-44cd-aafd-3b977c10de5a@t9g2000vbs.googlegroups.com>
Source record: 4404

On Jun 23, 12:43 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 22, 5:24 pm, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
>
> > ok, i'm afraid i'm going to have to ask the simple question... if you
> > blackbox the load and stub and look at just the one connection to it
> > and that gives you no reflected power... where do you define the
> > second port, and why?
>
> For the two-port analysis, only the impedance discontinuity at point
> 'x' is in the black box. One port is the source side of the impedance
> discontinuity. The second port is the load side of the impedance
> discontinuity. It allows the standard s-parameters to be measured and
> the standard s-parameter equations to be used.
>
> On the source side of the impedance discontinuity:
>
> b1 = s11(a1) + s12(a2)
>
> On the load side of the impedance discontinuity:
>
> b2 = s21(a1) + s22(a2)
>
> Those are the normalized voltage equations. Squaring those equations
> shows what happens to the component powers including interference
> components. Reference:
>
> http://www.sss-mag.com/pdf/an-95-1.pdf
> --
> 73, Cecil, w5dxp.com

p.s. if the separation between the two ports is just the discontinuity
connection 'point' then the voltages must be the same and the currents
are exact opposites only because of the direction convention defined,
there can be no difference measuring on one side of a point to the
other.

1604. BEST HOT VIDEO WATCH HERE MODLES HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 11:49:15 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <523f2df4-470b-4d9d-bfcd-086e547e45ad@y7g2000prk.googlegroups.com>
Source record: 4405

VERY VERY VERY HOT HOT HOT ONLY HOT
http://acresesandmodels.blogspot.com/2011/06/real-kiss-hot-videos.html

HOT HOT LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/hot-for-youth.html
SUPER HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-101.html
YOUTH HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-lip-kiss-12.html
ONLY HOT HOT
http://hotvideosfreesee.blogspot.com/2010/06/supr-hot-never-seen.html
SUPER HOT NEVER SEEN
http://hotvideosfreesee.blogspot.com/2010/06/supe-r-hot-kiss-op.html
HEROINE LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/kajal-best-lip-kiss.html

for mopre hot videos
http://allvideosforyouth.blogspot.com/2010/08/super-hot-lip-kiss.html

jobs
http://alljobsaywhere.blogspot.com/

games

GAME 1
http://freeonlingamesplay.blogspot.com/2010/08/game-1.html
GAME 2
http://freeonlingamesplay.blogspot.com/2010/08/game-2.html

mobile

mobile games free download
http://mobileallinforation.blogspot.com/2010/08/mobile-games-free-download.html

mobile ringtones free download
http://mobileallinforation.blogspot.com/2010/08/mobile-ringtones-free-download.html

1605. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 13:52:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <589fe548-f042-4089-a3df-11b356dc3cea@d19g2000prh.googlegroups.com>
Source record: 4406

On Jun 23, 4:41 pm, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
> but what is your second source? you can always represent the second
> source in that case in terms of the transmitter output so the second
> input can be eliminated giving you a single port model.

a1 is the normalized forward voltage on the 50 ohm feedline from the source. a2 is the normalized reflected voltage on the 291.4 ohm feedline from the load. Those are the two sources associated with the impedance discontinuity inside the black box. a2 could just as easily be from a second generator instead of a reflection.

When the single-port model is used, if the impedance is not an impedor, i.e. if the impedance is virtual, the reflection coefficients are virtual reflection coefficients that do not reflect anything and do not absorb power. I will repeat an earlier assertion:

Since a virtual impedance is result of the superposition of a forward wave and a reflected wave, a virtual impedance cannot re-reflect the reflected wave, i.e. one cannot re-reflect the reflected wave while at the same time the reflected wave is being used to generate an impedance. It has to be one or the other. Otherwise, there is a violation of the conservation of energy principle. RF EM ExH energy cannot be used simultaneously to generate a virtual impedance while at the same time being re-reflected.

If the reflected wave is re-reflected, it must be by an impedance other than the virtual impedance generated by the reflected wave itself. If the reflected wave is being used to generate a virtual impedance, it cannot at the same time be being re-reflected.

On Jun 24, 6:27 am, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
> p.s. if the separation between the two ports is just the discontinuity
> connection 'point' then the voltages must be the same and the currents
> are exact opposites only because of the direction convention defined,
> there can be no difference measuring on one side of a point to the
> other.

The total voltage and total current on both sides of the impedance discontinuity must be equal. But the superposition components do not have to be equal and, in fact, cannot be equal. In the case of the Z0-matched example, the forward voltage on the 50 ohm side is 70.7 volts while the forward voltage on the 291.4 ohm side is 241.4 volts. In order for the total voltage to be the same, the reflected voltage on the 291.4 ohm side, which is 170.7 volts, must be subtracted from the 241.4 volts of forward voltage to yield a total of 70.7 volts. For the Z0-matched example:

Vfwd1 = Vfwd2 - Vref2

70.7v = 241.4v - 170.7v

Please note that the Z0-match point is at a voltage minimum on the
291.4 ohm feedline. 1/4WL toward the load, the total voltage is
241.4+170.7=412.1 volts (in a lossless system).
--
73, Cecil, w5dxp.com

1606. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 14:16:43 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3fec3bbf-a5c6-4ec9-99b2-d2ae30183244@34g2000pru.googlegroups.com>
Source record: 4407

On Jun 23, 6:11 pm, Mike Coslo <m...@psu.edu> wrote:
> Do you actually see any relation between quanta and aether theory?

Looks like you assumed I was making an exclusive assertion when it was actually inclusive. What I was saying is that all the people on the opposite side of the argument from the existence of an aether, i.e. the people who argued that a perfect vacuum is absolute nothingness, have been proved wrong. There is indeed a structure inside a perfect vacuum and "quantum aether" is just as good a name for that structure as any other words. I suggest we convert from "luminiferous aether" to "quantum aether" and be done with it.

Note that EM waves cannot propagate through absolute nothingness. That's why light cannot escape the boundaries of the universe.
--
73, Cecil, w5dxp.com

1607. Which is better, 2 separate toroidal cores for a Guanella 4:1 current balun or 1 toroidal core?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 15:01:00 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <339c802c-14eb-4904-992f-4dff9820623d@gh5g2000vbb.googlegroups.com>
Source record: 4408

I've been reading several articles on how to build a Guanella 4:1
current balun. Some articles show a single toroidal core being used
for all windings, and some articles show two separate toroidal cores
being used. Which is better?

Thanks,

Michael Rawls
KS4HY

1608. Re: Which is better, 2 separate toroidal cores for a Guanella 4:1 current balun or 1 toroidal core?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 15:42:17 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <5a334eac-9bd7-4115-8563-a37bc56f1b97@glegroupsg2000goo.googlegroups.com>
Source record: 4409

On Saturday, 25 June 2011 01:01:00 UTC+10, Michael wrote:
> I've been reading several articles on how to build a Guanella 4:1
> current balun. Some articles show a single toroidal core being used
> for all windings, and some articles show two separate toroidal cores
> being used. Which is better?

The single core does not work properly, see http://vk1od.net/balun/gsc/ .

Owen

1609. Re: Yagi boom question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 16:57:58 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iu2fmm$cq2$1@news.jpl.nasa.gov>
Source record: 4410

On 6/23/2011 8:54 PM, tom wrote:
> On 6/23/2011 11:34 AM, Jim Lux wrote:
>> On 6/22/2011 7:31 PM, tom wrote:
>>
>>> I've built many 6m beams with no correction added and using simple
>>> homebrew U clamps. I have seen little discernible difference in their
>>> performance from predicted. Of course I shouldn't except perhaps in the
>>> side nulls. And they seemed about right. One small confirmation was the
>>> SWR curve also matched predicted.
>>>
>>
>>
>> Based on a fair number of simulations over the years, I'd say that SWR
>> curves are not very sensitive to pattern degradation (except in an
>> egregious case)..
>>
>> Consider a 5 element medium gain Yagi where the currents are all roughly
>> equal (which is what you'd have with moderate superdirectivity) and it
>> has a F/B ratio of, say, 20dB.
>>
>> Screw up the current in one of the elements by, say, 25% (so the overall
>> excitation is now off by 5%).. That's enough to turn your -20dB null
>> into a -10dB null (in round numbers..)
>>
>> But, would you even see that in a VSWR.. say it was 1.2:1 before
>> (reflection coefficient = 0.09).. and now the reflection coefficient
>> changes by 5%.. so it's 0.0945.. That's a VSWR of 1.208.. I think you'd
>> have a hard time measuring that..
>>
>
> You are correct. I have also measured gain and F/B and side patterns.
> And they match predicted quite well.
>
> One design was a 7.5 wavelength 432 EME antenna which had nice ground
> noise performance in real world use. Which is very pattern sensitive.
>
> tom
> K0TAR
>

In fact, I would assert that today, VSWR measurements are almost useless
for *antenna adjustment and construction*.. and even for adjusting
elements. With modern modeling codes which don't require all sorts of
little fiddly "correction factors" (e.g. taper or boom factors) to

allow simulating a complex structure with a simpler model, a tape measure would be a better tool.

There's a lot of literature from the 50s-70s and even 80s where antennas are constructed and you adjust the element length by using the trusty GDO. (Yep, I remember helping my grandfather assemble a multiband Yagi of some sort in the early 70s doing it that way..)

But today.. mechanical dimensions and a high fidelity model are the way to go.

Where the VSWR measurement would be useful is in two places:
1) Adjusting a wire antenna length... they're usually interacting with the surroundings, so you have to cut and try, and a VSWR sweep is a good way to get there quickly. Putting up that triband multiwire dipole for Field day tomorrow? The Antenna analyzer is your friend when trying to get all those mutually interacting lengths dialed in.

2) A quick check to see if an antenna system that worked before has "broken" in a big way.

1610. 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 18:16:42 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <9fd9d56c-8c85-4d7e-9695-95b2aa1b99f0@r33g2000prh.googlegroups.com>
Source record: 4411

I've participated in Field Day every year since 1993, when I was first licensed. Because I had a big 2m beam, I worked that band aggressively, sometimes making the most QSOs. Unfortunately we lost our hilltop FD site in 2009 and the 2m production "down low" was disappointing in '09 and '10.

This year some youngsters want to work 2m, so I'm moving to HF, 20m being the most promising, I think. With the help of EZNEC (evaluation version), I modeled a promising 20m dipole at 30'. It's almost exactly 75 ohms resistive at the freqs I want to use and I'm going to feed it with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match the 75-ohm cable, if I need it.

I'll report the results.

"Sal"
KD6VKW ("Vicious Killer Weasel")

1611. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 18:24:56 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <a89adcce-ddbf-4f76-a112-6b430aacf31a@q17g2000vby.googlegroups.com>
Source record: 4412

On Jun 24, 1:52 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 23, 4:41 pm, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
>
> > but what is your second source? you can always represent the second
> > source in that case in terms of the transmitter output so the second
> > input can be eliminated giving you a single port model.
>
> a1 is the normalized forward voltage on the 50 ohm feedline from the
> source. a2 is the normalized reflected voltage on the 291.4 ohm
> feedline from the load. Those are the two sources associated with the
> impedance discontinuity inside the black box. a2 could just as easily
> be from a second generator instead of a reflection.
>
> When the single-port model is used, if the impedance is not an
> impedor, i.e. if the impedance is virtual, the reflection coefficients
> are virtual reflection coefficients that do not reflect anything and
> do not absorb power. I will repeat an earlier assertion:
>
> Since a virtual impedance is result of the superposition of a forward
> wave and a reflected wave, a virtual impedance cannot re-reflect the
> reflected wave, i.e. one cannot re-reflect the reflected wave while at
> the same time the reflected wave is being used to generate an
> impedance. It has to be one or the other. Otherwise, there is a
> violation of the conservation of energy principle. RF EM ExH energy
> cannot be used simultaneously to generate a virtual impedance while at
> the same time being re-reflected.
>
> If the reflected wave is re-reflected, it must be by an impedance
> other than the virtual impedance generated by the reflected wave
> itself. If the reflected wave is being used to generate a virtual
> impedance, it cannot at the same time be being re-reflected.
>
> On Jun 24, 6:27 am, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
>
> > p.s. if the separation between the two ports is just the discontinuity
> > connection 'point' then the voltages must be the same and the currents
> > are exact opposites only because of the direction convention defined,
> > there can be no difference measuring on one side of a point to the
> > other.
>
> The total voltage and total current on both sides of the impedance
> discontinuity must be equal. But the superposition components do not
> have to be equal and, in fact, cannot be equal. In the case of the Z0-
> matched example, the forward voltage on the 50 ohm side is 70.7 volts

> while the forward voltage on the 291.4 ohm side is 241.4 volts. In
> order for the total voltage to be the same, the reflected voltage on
> the 291.4 ohm side, which is 170.7 volts, must be subtracted from the
> 241.4 volts of forward voltage to yield a total of 70.7 volts. For the
> Z0-matched example:
>
> Vfwd1 = Vfwd2 - Vref2
>
> 70.7v = 241.4v - 170.7v
>
> Please note that the Z0-match point is at a voltage minimum on the
> 291.4 ohm feedline. 1/4WL toward the load, the total voltage is
> 241.4+170.7=412.1 volts (in a lossless system).
> --
> 73, Cecil, w5dxp.com

meaningless hair splitting. if i put a meter on one side of the stub connection point i will measure the exact same voltage as on the other side of the connection point. why don't you guys do something practical instead of arguing about split hairs and things that can't be measured?

1612. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 19:05:30 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu2n5t$b0u$1@dont-email.me>
Source record: 4413

On 6/24/2011 1:24 PM, dave wrote:
> On Jun 24, 1:52 pm, Cecil Moore<w5...@hotmail.com> wrote:
>> On Jun 23, 4:41 pm, dave<k1ttt%pstn2....@gtempaccount.com> wrote:
>>
>>> but what is your second source? you can always represent the second
>>> source in that case in terms of the transmitter output so the second
>>> input can be eliminated giving you a single port model.
>>
>> a1 is the normalized forward voltage on the 50 ohm feedline from the
>> source. a2 is the normalized reflected voltage on the 291.4 ohm
>> feedline from the load. Those are the two sources associated with the
>> impedance discontinuity inside the black box. a2 could just as easily
>> be from a second generator instead of a reflection.
>>
>> When the single-port model is used, if the impedance is not an
>> impedor, i.e. if the impedance is virtual, the reflection coefficients
>> are virtual reflection coefficients that do not reflect anything and
>> do not absorb power. I will repeat an earlier assertion:
>>
>> Since a virtual impedance is result of the superposition of a forward
>> wave and a reflected wave, a virtual impedance cannot re-reflect the
>> reflected wave, i.e. one cannot re-reflect the reflected wave while at
>> the same time the reflected wave is being used to generate an
>> impedance. It has to be one or the other. Otherwise, there is a
>> violation of the conservation of energy principle. RF EM ExH energy
>> cannot be used simultaneously to generate a virtual impedance while at
>> the same time being re-reflected.
>>
>> If the reflected wave is re-reflected, it must be by an impedance
>> other than the virtual impedance generated by the reflected wave
>> itself. If the reflected wave is being used to generate a virtual
>> impedance, it cannot at the same time be being re-reflected.
>>
>> On Jun 24, 6:27 am, dave<k1ttt%pstn2....@gtempaccount.com> wrote:
>>
>>> p.s. if the separation between the two ports is just the discontinuity
>>> connection 'point' then the voltages must be the same and the currents
>>> are exact opposites only because of the direction convention defined,
>>> there can be no difference measuring on one side of a point to the
>>> other.
>>
>> The total voltage and total current on both sides of the impedance
>> discontinuity must be equal. But the superposition components do not
>> have to be equal and, in fact, cannot be equal. In the case of the Z0-

>> matched example, the forward voltage on the 50 ohm side is 70.7 volts
>> while the forward voltage on the 291.4 ohm side is 241.4 volts. In
>> order for the total voltage to be the same, the reflected voltage on
>> the 291.4 ohm side, which is 170.7 volts, must be subtracted from the
>> 241.4 volts of forward voltage to yield a total of 70.7 volts. For the
>> Z0-matched example:
>>
>> Vfwd1 = Vfwd2 - Vref2
>>
>> 70.7v = 241.4v - 170.7v
>>
>> Please note that the Z0-match point is at a voltage minimum on the
>> 291.4 ohm feedline. 1/4WL toward the load, the total voltage is
>> 241.4+170.7=412.1 volts (in a lossless system).
>> --
>> 73, Cecil, w5dxp.com
>
> meaningless hair splitting. if i put a meter on one side of the stub
> connection point i will measure the exact same voltage as on the other
> side of the connection point. why don't you guys do something
> practical instead of arguing about split hairs and things that can't
> be measured?

It can be measured. Why don't you go to another group or thread? Nobody
is forcing you to read this one.

1613. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-24 19:20:12 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu2o1f$b0u$2@dont-email.me>
Source record: 4414

On 6/24/2011 8:52 AM, Cecil Moore wrote:

> When the single-port model is used, if the impedance is not an
> impedor, i.e. if the impedance is virtual, the reflection coefficients
> are virtual reflection coefficients that do not reflect anything and
> do not absorb power. I will repeat an earlier assertion:
>
> Since a virtual impedance is result of the superposition of a forward
> wave and a reflected wave, a virtual impedance cannot re-reflect the
> reflected wave, i.e. one cannot re-reflect the reflected wave while at
> the same time the reflected wave is being used to generate an
> impedance. It has to be one or the other. Otherwise, there is a
> violation of the conservation of energy principle. RF EM ExH energy
> cannot be used simultaneously to generate a virtual impedance while at
> the same time being re-reflected.
>
> If the reflected wave is re-reflected, it must be by an impedance
> other than the virtual impedance generated by the reflected wave
> itself. If the reflected wave is being used to generate a virtual
> impedance, it cannot at the same time be being re-reflected.

I disagree. There are 100W supplied by the source and 100W consumed by
the load. There are 200W in the 291.4 ohm line. 100W of that is just
"passing through". The other 100W is circulating, that is, stored energy
which was put there by the start-up transient. If it is circulating,
then it must be reflected from each end of the 291.4 ohm line.

Cheers,
John

1614. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 00:17:30 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iu39en$r47u$1@tr22n12.aset.psu.edu>
Source record: 4415

On 6/24/2011 10:16 AM, Cecil Moore wrote:
> On Jun 23, 6:11 pm, Mike Coslo<m...@psu.edu> wrote:
>> Do you actually see any relation between quanta and aether theory?
>
> Looks like you assumed I was making an exclusive assertion when it was
> actually inclusive.

Okay, Cecil - now work phlogiston theory into this, and I'll buy you a beer.

- 73 de Mike N3LI -

1615. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 00:41:30 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <12562426-d3c2-4678-943e-4900054da819@d1g2000yqm.googlegroups.com>
Source record: 4416

On Jun 24, 2:20 pm, John S <soph...@invalid.org> wrote:
> > If the reflected wave is re-reflected, it must be by an impedance
> > other than the virtual impedance generated by the reflected wave
> > itself. If the reflected wave is being used to generate a virtual
> > impedance, it cannot at the same time be being re-reflected.
>
> I disagree. There are 100W supplied by the source and 100W consumed by
> the load. There are 200W in the 291.4 ohm line. 100W of that is just
> "passing through". The other 100W is circulating, that is, stored energy
> which was put there by the start-up transient. If it is circulating,
> then it must be reflected from each end of the 291.4 ohm line.

Let's assume that the 100 watts is just "passing through". It would change from 70.7 volts in the 50 ohm environment to 170.7 volts in the 291.4 ohm environment. The reflected power is 100 watts so the reflected voltage is also 170.7 volts. Those two voltages would have to add together to get the forward voltage. The forward voltage is known to be 241.4 volts. Exactly how do you add two 170.7 volt in-phase waves to get a total of 241.4 volts?

Here is actually what happens. Since the physical power reflection coefficient at the Z0-match point is 0.5, only 50 watts of the source power makes it through the impedance discontinuity. That voltage is 120.7 volts. The same thing applies to the reflected power - only 50 watts is re-reflected by the 0.5 power reflection coefficient. So the re-reflected voltage is also 120.7 volts. Adding those two voltages together yields 241.4 volts which we know is the correct forward voltage.

Now you are going to ask how two 50 watt waves can add up to 200 watts forward power. That's just the nature of constructive interference since power is proportional to voltage squared. If we add two 50 watt waves in phase, we get a 200 watt wave. Where did the extra 100 watts come from? Why, from the 100 watts of destructive interference toward the source that eliminated the reflections toward the source.
--
73, Cecil, w5dxp.com

1616. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 00:45:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b8dce77f-cfa3-4615-93c4-2f096a3ae9e8@n5g2000yqh.googlegroups.com>
Source record: 4417

On Jun 24, 1:24 pm, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
> meaningless hair splitting.

That's my attitude toward religion so I don't frequent any religious
newsgroups.

That meaningless hair splitting is the answer to the apparent
contradiction with which Walt is wrestling.
--
73, Cecil, w5dxp.com

1617. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 02:26:59 UTC
From: tom <news4792@taring.org>
Message-ID: <4e05476e$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4418

On 6/24/2011 3:20 AM, Szczepan Bialek wrote:
> "Cecil Moore"<w5dxp@hotmail.com> napisal w wiadomosci
> news:f51c35e4-5548-4a96-a538-f4e759e96755@y13g2000prb.googlegroups.com...
> On Jun 23, 12:13 am, John Smith<bit_buc...@gmx.com> wrote:
>>> Is it finally a valid way in which we can interact/view the invisible?
>
>> Not only does the aether actually exist, it can be photographed.:) The
> error that the old-time physicists made was assuming that the aether
> was made of ordinary matter instead of exotic quantum particles.
>
> Faraday's aether was made of ions and electrons (like copper). Todays space
> is made of rare plasma and dust. The most of old-time physicists need the
> exotic aether to explain the light polarization. For Faraday the rare plasma
> and its vibrations are enough to explain all phenomena.
> S*
>
>

Oh good, he's back.

Been kind of dull without the "Coast to Coast" style antenna designers.

tom
K0TAR

1618. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 10:53:47 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <ca346b21-05ab-4f18-b69a-3ad8c52d1273@t7g2000vbv.googlegroups.com>
Source record: 4419

On Jun 24, 7:05 pm, John S <soph...@invalid.org> wrote:
> On 6/24/2011 1:24 PM, dave wrote:
>
>
>
>
>
>
>
>
>
>
> > On Jun 24, 1:52 pm, Cecil Moore<w5...@hotmail.com> wrote:
> >> On Jun 23, 4:41 pm, dave<k1ttt%pstn2....@gtempaccount.com> wrote:
>
> >>> but what is your second source? you can always represent the second
> >>> source in that case in terms of the transmitter output so the second
> >>> input can be eliminated giving you a single port model.
>
> >> a1 is the normalized forward voltage on the 50 ohm feedline from the
> >> source. a2 is the normalized reflected voltage on the 291.4 ohm
> >> feedline from the load. Those are the two sources associated with the
> >> impedance discontinuity inside the black box. a2 could just as easily
> >> be from a second generator instead of a reflection.
>
> >> When the single-port model is used, if the impedance is not an
> >> impedor, i.e. if the impedance is virtual, the reflection coefficients
> >> are virtual reflection coefficients that do not reflect anything and
> >> do not absorb power. I will repeat an earlier assertion:
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> >> Since a virtual impedance is result of the superposition of a forward
> >> wave and a reflected wave, a virtual impedance cannot re-reflect the
> >> reflected wave, i.e. one cannot re-reflect the reflected wave while at
> >> the same time the reflected wave is being used to generate an
> >> impedance. It has to be one or the other. Otherwise, there is a
> >> violation of the conservation of energy principle. RF EM ExH energy
> >> cannot be used simultaneously to generate a virtual impedance while at
> >> the same time being re-reflected.
>
> >> If the reflected wave is re-reflected, it must be by an impedance
> >> other than the virtual impedance generated by the reflected wave
> >> itself. If the reflected wave is being used to generate a virtual
> >> impedance, it cannot at the same time be being re-reflected.
>
> >> On Jun 24, 6:27 am, dave<k1ttt%pstn2....@gtempaccount.com> wrote:

>
> >>> p.s. if the separation between the two ports is just the discontinuity
> >>> connection 'point' then the voltages must be the same and the currents
> >>> are exact opposites only because of the direction convention defined,
> >>> there can be no difference measuring on one side of a point to the
> >>> other.
>
> >> The total voltage and total current on both sides of the impedance
> >> discontinuity must be equal. But the superposition components do not
> >> have to be equal and, in fact, cannot be equal. In the case of the Z0-
> >> matched example, the forward voltage on the 50 ohm side is 70.7 volts
> >> while the forward voltage on the 291.4 ohm side is 241.4 volts. In
> >> order for the total voltage to be the same, the reflected voltage on
> >> the 291.4 ohm side, which is 170.7 volts, must be subtracted from the
> >> 241.4 volts of forward voltage to yield a total of 70.7 volts. For the
> >> Z0-matched example:
>
> >> Vfwd1 = Vfwd2 - Vref2
>
> >> 70.7v = 241.4v - 170.7v
>
> >> Please note that the Z0-match point is at a voltage minimum on the
> >> 291.4 ohm feedline. 1/4WL toward the load, the total voltage is
> >> 241.4+170.7=412.1 volts (in a lossless system).
> >> --
> >> 73, Cecil, w5dxp.com
>
> > meaningless hair splitting. if i put a meter on one side of the stub
> > connection point i will measure the exact same voltage as on the other
> > side of the connection point. why don't you guys do something
> > practical instead of arguing about split hairs and things that can't
> > be measured?
>
> It can be measured. Why don't you go to another group or thread? Nobody
> is forcing you to read this one.

try it! you will read the exact same voltage on either side of that
connection point!

1619. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 10:59:55 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <7671acff-894b-439b-b55a-e24cdfea1482@eb1g2000vbb.googlegroups.com>
Source record: 4420

On Jun 24, 6:16 pm, "Sal M. Onella" <sob...@cox.net> wrote:
> I've participated in Field Day every year since 1993, when I was first
> licensed. Because I had a big 2m beam, I worked that band
> aggressively, sometimes making the most QSOs. Unfortunately we lost
> our hilltop FD site in 2009 and the 2m production "down low" was
> disappointing in '09 and '10.
>
> This year some youngsters want to work 2m, so I'm moving to HF, 20m
> being the most promising, I think. With the help of EZNEC (evaluation
> version), I modeled a promising 20m dipole at 30'. It's almost exactly
> 75 ohms resistive at the freqs I want to use and I'm going to feed it
> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
> the 75-ohm cable, if I need it.
>
> I'll report the results.
>
> "Sal"
> KD6VKW ("Vicious Killer Weasel")

wow, it takes eznec to model a dipole for field day now? not that
many years ago i ran a competition at field day... given a hunk of
coax(with one connector installed), a roll of wire, and some random
pieces of rope, cut a 10m dipole, get it up in the air, and make a
contact. no eznec, a tape measure if you really wanted it, and who
knows what the coax was.

1620. Re: Which is better, 2 separate toroidal cores for a Guanella 4:1 current balun or 1 toroidal core?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 11:51:31 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <aef7976a-f027-47ff-8d87-d98361645785@5g2000yqb.googlegroups.com>
Source record: 4421

On 24 jun, 17:42, Owen Duffy <o...@owenduffy.net> wrote:
> On Saturday, 25 June 2011 01:01:00 UTC+10, Michael wrote:
> > I've been reading several articles on how to build a Guanella 4:1
> > current balun. Some articles show a single toroidal core being used
> > for all windings, and some articles show two separate toroidal cores
> > being used. Which is better?
>
> The single core does not work properly, seehttp://vk1od.net/balun/gsc/.
>
> Owen

Hello Michael,

Owen's reference explains everything in detail.

If you want a very short answer:
The two-core balun has common mode suppression characteristics. That means when your balanced load isn't balanced in real world, the balun will reduce common mode current in both coaxial line as well as balanced line.

The single-core balun is electrically more like an autotransformer with the coaxial ground on the center-tap. This arrangement does not provide any common mode suppression. So only in case of a perfect balanced load, everything will be fine (with the single-core balun).

Now the longer part
If you still want to go for the single-core solution, you may add a separate common mode choke. For common mode behaviour, the two cores in the two-core balun are in parallel. So the effective common mode impedance will be half that of the CM impedance of a single core.

Regarding the number of turns for the balun; when you need 8 turns on each core for the two-core solution, you can use 4 turns for each branch in case of a single core solution. So if you make the single core balun with coaxial cable, you will have 8 turns of coaxial cable around the core.

Slightly off-topic.
Be aware of the fact the actual input or output voltage determines the heat loss in the ferrite cores. So if the VSWR at the balun is very bad, and the balun is in the voltage maximum, core loss may increase significantly.

With kind regards,

Wim
PA3DJS
www.tetech.nl

1621. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 13:18:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b1175c6c-c8e6-481a-9b23-50a23ad11644@s17g2000yqs.googlegroups.com>
Source record: 4422

On Jun 25, 5:53 am, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
> try it! you will read the exact same voltage on either side of that
> connection point!

I already told you that only applies to the total voltage and total current. You will NOT read the same forward voltage on either side, you will NOT read the same forward current on either side, you will NOT read the same reflected voltage on either side, and you will NOT read the same reflected current on either side. The total voltage and total current are the results of the superposition of the four component voltages and currents that obey the rules of wave reflection mechanics. Recognizing the interference patterns when two phasor voltages are superposed is the key to understanding exactly what is happening to the energy in the waves. At an impedance discontinuity in a transmission line some distance from any active source, the average destructive interference power in one direction MUST equal the average constructive interference power in the opposite direction in order to avoid a violation of the conservation of energy principle.

So why isn't the forward current flowing into the impedance discontinuity equal to the forward current flowing out of the impedance discontinuity? The answer to that question will solve Walt's apparent contradiction between voltages and powers. Look at the Z0-match again.

source--50 ohm--+--1/2WL Z0>50 ohm--50 ohm load

The total current on the 50 ohm side of point '+' is equal to the total current on the Z0>50 ohm side but the current on the 50 ohm side is a flat traveling wave *constant* current while the current on the Z0>50 ohm side is a standing-wave current maximum, i.e. the total current on the Z0>50 ohm side is a *variable* that changes with a change in the measurement point. A variable current is NOT the same as a constant current.

The total voltage on the 50 ohm side is a flat traveling wave *constant* voltage while the voltage on the Z0>50 ohm side is a standing wave voltage minimum, i.e. the total voltage on the Z0>50 ohm side is a *variable* that changes with a change in the measurement point.

The power on the 50 ohm side is V*I where V and I are constant values. The power on the Z0>50 ohm side is V*I*cos(A) where A is the angle between the current phasor and the voltage phasor and, because of the standing waves, all three parameters vary with location on the feedline.

--
73, Cecil, w5dxp.com

1622. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 15:51:39 UTC
From: Eskay <siebklaasNO@SPAMhotmail.com>
Message-ID: <xchjzbh095db$.17hfqybjdih5t.dlg@40tude.net>
Source record: 4423

On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:

> On Jun 24, 6:16ï¿½pm, "Sal M. Onella" <sob...@cox.net> wrote:
>> I've participated in Field Day every year since 1993, when I was first
>> licensed. ï¿½Because I had a big 2m beam, I worked that band
>> aggressively, sometimes making the most QSOs. Unfortunately we lost
>> our hilltop FD site in 2009 and the 2m production "down low" was
>> disappointing in '09 and '10.
>>
>> This year some youngsters want to work 2m, so I'm moving to HF, 20m
>> being the most promising, I think. ï¿½With the help of EZNEC (evaluation
>> version), I modeled a promising 20m dipole at 30'. It's almost exactly
>> 75 ohms resistive at the freqs I want to use and I'm going to feed it
>> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
>> the 75-ohm cable, if I need it.
>>
>> I'll report the results.
>>
>> "Sal"
>> KD6VKW ("Vicious Killer Weasel")
>
> wow, it takes eznec to model a dipole for field day now? not that
> many years ago i ran a competition at field day... given a hunk of
> coax(with one connector installed), a roll of wire, and some random
> pieces of rope, cut a 10m dipole, get it up in the air, and make a
> contact. no eznec, a tape measure if you really wanted it, and who
> knows what the coax was.

You take all the fun out of a guy's efforts.

1623. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 17:02:47 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu54br$f2v$1@dont-email.me>
Source record: 4424

On 6/24/2011 7:41 PM, Cecil Moore wrote:
> On Jun 24, 2:20 pm, John S<soph...@invalid.org> wrote:
>>> If the reflected wave is re-reflected, it must be by an impedance
>>> other than the virtual impedance generated by the reflected wave
>>> itself. If the reflected wave is being used to generate a virtual
>>> impedance, it cannot at the same time be being re-reflected.
>>
>> I disagree. There are 100W supplied by the source and 100W consumed by
>> the load. There are 200W in the 291.4 ohm line. 100W of that is just
>> "passing through". The other 100W is circulating, that is, stored energy
>> which was put there by the start-up transient. If it is circulating,
>> then it must be reflected from each end of the 291.4 ohm line.
>
> Let's assume that the 100 watts is just "passing through". It would
> change from 70.7 volts in the 50 ohm environment to 170.7 volts in the
> 291.4 ohm environment. The reflected power is 100 watts so the
> reflected voltage is also 170.7 volts. Those two voltages would have
> to add together to get the forward voltage. The forward voltage is
> known to be 241.4 volts. Exactly how do you add two 170.7 volt in-
> phase waves to get a total of 241.4 volts?
>
> Here is actually what happens. Since the physical power reflection
> coefficient at the Z0-match point is 0.5, only 50 watts of the source
> power makes it through the impedance discontinuity. That voltage is
> 120.7 volts. The same thing applies to the reflected power - only 50
> watts is re-reflected by the 0.5 power reflection coefficient. So the
> re-reflected voltage is also 120.7 volts. Adding those two voltages
> together yields 241.4 volts which we know is the correct forward
> voltage.
>
> Now you are going to ask how two 50 watt waves can add up to 200 watts
> forward power. That's just the nature of constructive interference
> since power is proportional to voltage squared. If we add two 50 watt
> waves in phase, we get a 200 watt wave. Where did the extra 100 watts
> come from? Why, from the 100 watts of destructive interference toward
> the source that eliminated the reflections toward the source.
> --
> 73, Cecil, w5dxp.com

If the reflections toward the source is eliminated, how is it that it
appears to be 50 ohms at that point rather than 291.4 ohms?

John

1624. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 17:41:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8aa21f54-f4a4-4bb0-8972-fdcfb0e4a021@eb1g2000vbb.googlegroups.com>
Source record: 4425

On Jun 25, 12:02 pm, John S <soph...@invalid.org> wrote:
> If the reflections toward the source is eliminated, how is it that it
> appears to be 50 ohms at that point rather than 291.4 ohms?

You answered your own question - if reflections toward the source are
eliminated in a Z0=50 ohm environment, the apparent (virtual)
impedance cannot be anything except 50 ohms. When you look at yourself
in the mirror, your reflected apparent (virtual) distance behind the
mirror is the same as your actual distance from the mirror. The
reflection is NOT where it appears to be, i.e. it is virtual.
--
73, Cecil, w5dxp.com

1625. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 22:25:16 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu5n8h$c2r$1@dont-email.me>
Source record: 4426

On 6/25/2011 12:41 PM, Cecil Moore wrote:
> On Jun 25, 12:02 pm, John S<soph...@invalid.org> wrote:
>> If the reflections toward the source is eliminated, how is it that it
>> appears to be 50 ohms at that point rather than 291.4 ohms?
>
> You answered your own question - if reflections toward the source are
> eliminated in a Z0=50 ohm environment, the apparent (virtual)
> impedance cannot be anything except 50 ohms

You said "Since a virtual impedance is result of the superposition of a
forward
wave and a reflected wave, a virtual impedance cannot re-reflect the
reflected wave, i.e. one cannot re-reflect the reflected wave while at
the same time the reflected wave is being used to generate an
impedance."

But, it does. First, it causes the 50 ohms line (looking into the 291.4
ohms line to see a match due to the reflection. Second, the
re-reflection from that discontinuity is half of what maintains the
circulating energy on the line. The other half is the discontinuity of
the non-virtual load.

1626. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 22:28:42 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <db65231d-de9f-4c0a-adb3-22020493d3a8@glegroupsg2000goo.googlegroups.com>
Source record: 4427

Hi Sal,

On Saturday, 25 June 2011 04:16:42 UTC+10, Sal M. Onella wrote:
...
> being the most promising, I think. With the help of EZNEC (evaluation
> version), I modeled a promising 20m dipole at 30'. It's almost exactly
> 75 ohms resistive at the freqs I want to use and I'm going to feed it
> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
> the 75-ohm cable, if I need it.

That sounds fine as far as it goes.

You might consider a 1:1 current balun, a W2DU style one should suit this application fine.

I applaud your efforts to understand the thing using a modelling tool. To some of us, the inquiring mind and the interest in the technology of radio communications is what ham radio is really about. For those not so interested there are contests!

Your model though contains a guess for ground parameters, and possibly other site effects not included. You must expect some variation from model, but those variations would not cause very high VSWR on the line, line losses should be quite acceptable, and an ATU should transform the load it sees to that required for rated output from the transmitter with quite acceptable losses.

In my experience, antennas less dependent on ground are more likely to give consistent performance for field operations where you usually cannot afford to be installing significant ground systems.

Well done OM.

Owen

1627. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-25 22:44:15 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu5oc4$c2r$2@dont-email.me>
Source record: 4428

On 6/25/2011 5:28 PM, Owen Duffy wrote:
> Hi Sal,
>
> On Saturday, 25 June 2011 04:16:42 UTC+10, Sal M. Onella wrote:
> ...
>> being the most promising, I think. With the help of EZNEC (evaluation
>> version), I modeled a promising 20m dipole at 30'. It's almost exactly
>> 75 ohms resistive at the freqs I want to use and I'm going to feed it
>> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
>> the 75-ohm cable, if I need it.
>
> That sounds fine as far as it goes.
>
> You might consider a 1:1 current balun, a W2DU style one should suit this application fine.
>
> I applaud your efforts to understand the thing using a modelling tool. To some of us, the inquiring mind and the interest in the technology of radio communications is what ham radio is really about. For those not so interested there are contests!
>
> Your model though contains a guess for ground parameters, and possibly other site effects not included. You must expect some variation from model, but those variations would not cause very high VSWR on the line, line losses should be quite acceptable, and an ATU should transform the load it sees to that required for rated output from the transmitter with quite acceptable losses.
>
> In my experience, antennas less dependent on ground are more likely to give consistent performance for field operations where you usually cannot afford to be installing significant ground systems.
>
> Well done OM.
>
> Owen

Hi, Owen -

Allow me to jump in here and ask: which antennas are less dependent on ground?

John - KD5YI

1628. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-26 11:37:35 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <34aa196c-eaf6-4656-85cf-572ddd3e8bc5@a10g2000vbz.googlegroups.com>
Source record: 4429

On Jun 23, 12:50 am, John Smith <bit_buc...@gmx.com> wrote:
> On 6/22/2011 3:24 PM, dave wrote:
>
>
>
>
>
>
>
>
>
>
> > On Jun 22, 1:49 pm, Cecil Moore<w5...@hotmail.com> wrote:
> >> Let's return to an earlier example and compare a single-port analysis
> >> with a dual-port analysis.
>
> >> 100w
> >> source--50 ohm--+--1/2WL 291.4 ohm--50 ohm load
>
> >> The 50 ohm Z0-match point is at '+'. The forward power on the 50 ohm
> >> line is 100 watts and the reflected power on the 50 ohm line is zero
> >> watts. The forward power on the 291.4 ohm line is 200 watts and the
> >> reflected power on the 291.4 ohm line is 100 watts. 100 watts is being
> >> sourced and delivered to the 50 ohm load.
>
> >> The voltage reflection coefficient, rho, at the load is (50-291.4)/
> >> (50+291.4)=0.7071. The power reflection coefficient, rho^2, at the
> >> load is 0.5, i.e. half of the power incident upon the load (200w) is
> >> reflected (100w). Since the load is a single-port, these parameters
> >> are consistent with a single-port analysis. In a single-port analysis,
> >> we cannot tell the difference between a virtual reflection coefficient
> >> and a physical reflection coefficient.
>
> >> The problem comes when we use a single-port analysis on the Z0-match
> >> point. Since the reflected power on the 50 ohm line is zero, a single-
> >> port analysis would yield rho=0.0 and rho^2=0.0 when viewing the Z0-
> >> match from the source side. When we perform a dual-port analysis, we
> >> get different values for rho and rho^2, i.e. we get the complement of
> >> the reflection coefficients at the load which is a characteristic of
> >> any simple Z0-match similar to the above example.
>
> >> For a dual-port analysis, rho looking into the Z0-match from the
> >> source side is (291.4-50)/(291.4+50)=0.7071 and rho^2 looking into the
> >> Z0-match from the source side is 0.5, the same as at the load. Looking
> >> back into the Z0-match from the load side, the sign of rho is negative

> >> just as it is at the load with rho^2=0.5, the same as at the load.
>
> >> Since the two analyses yield different values for the reflection
> >> coefficients, which analysis is correct? The answer gives the clue to
> >> the resolution of this discussion.
> >> --
> >> 73, Cecil, w5dxp.com
>
> > ok, i'm afraid i'm going to have to ask the simple question... if you
> > blackbox the load and stub and look at just the one connection to it
> > and that gives you no reflected power... where do you define the
> > second port, and why?
>
> Logic, immediately, suggests to me, that varying the frequency and
> measuring voltage, amperage, and SWR would begin to immediately point
> the answer(s.)
>
> Regards,
> JS

but you can't do that! they don't like real measurements, only
arguing about their virtual reflections and the separate currents and
voltages.

1629. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-26 11:43:07 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <20d5a9a2-a311-4544-b7c5-f28eee315cf2@q17g2000vby.googlegroups.com>
Source record: 4431

On Jun 25, 1:18 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 25, 5:53 am, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
>
> > try it! you will read the exact same voltage on either side of that
> > connection point!
>
> I already told you that only applies to the total voltage and total
> current. You will NOT read the same forward voltage on either side,
> you will NOT read the same forward current on either side, you will
> NOT read the same reflected voltage on either side, and you will NOT
> read the same reflected current on either side.

when someone gives me a voltmeter i can touch to that connection point
and measure the 4 components then we can talk. as far as designing
anything i need i can do it without giving those s parameters or your
4 components a second thought. it is very easy to transform and
combine the impedances to tell me what the load seen by the
transmitter is, or to figure out the needed stub for providing a
proper match without all that stuff.

1630. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-26 11:44:22 UTC
From: dave <k1ttt%pstn2.net@gtempaccount.com>
Message-ID: <51bded41-03c9-4fe7-bc82-cb4069f179b6@p6g2000vbj.googlegroups.com>
Source record: 4430

On Jun 25, 3:51 pm, Eskay <siebklaa...@SPAMhotmail.com> wrote:
> On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:
> > On Jun 24, 6:16 pm, "Sal M. Onella" <sob...@cox.net> wrote:
> >> I've participated in Field Day every year since 1993, when I was first
> >> licensed. Because I had a big 2m beam, I worked that band
> >> aggressively, sometimes making the most QSOs. Unfortunately we lost
> >> our hilltop FD site in 2009 and the 2m production "down low" was
> >> disappointing in '09 and '10.
>
> >> This year some youngsters want to work 2m, so I'm moving to HF, 20m
> >> being the most promising, I think. With the help of EZNEC (evaluation
> >> version), I modeled a promising 20m dipole at 30'. It's almost exactly
> >> 75 ohms resistive at the freqs I want to use and I'm going to feed it
> >> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
> >> the 75-ohm cable, if I need it.
>
> >> I'll report the results.
>
> >> "Sal"
> >> KD6VKW ("Vicious Killer Weasel")
>
> > wow, it takes eznec to model a dipole for field day now? not that
> > many years ago i ran a competition at field day... given a hunk of
> > coax(with one connector installed), a roll of wire, and some random
> > pieces of rope, cut a 10m dipole, get it up in the air, and make a
> > contact. no eznec, a tape measure if you really wanted it, and who
> > knows what the coax was.
>
> You take all the fun out of a guy's efforts.

too many people spend all their time analyzing antennas and no time
using them.

1631. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-26 16:51:51 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu7o3d$6q6$1@dont-email.me>
Source record: 4432

On 6/26/2011 6:44 AM, dave wrote:
> On Jun 25, 3:51 pm, Eskay<siebklaa...@SPAMhotmail.com> wrote:
>> On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:
>>> On Jun 24, 6:16 pm, "Sal M. Onella"<sob...@cox.net> wrote:
>>>> I've participated in Field Day every year since 1993, when I was first
>>>> licensed. Because I had a big 2m beam, I worked that band
>>>> aggressively, sometimes making the most QSOs. Unfortunately we lost
>>>> our hilltop FD site in 2009 and the 2m production "down low" was
>>>> disappointing in '09 and '10.
>>
>>>> This year some youngsters want to work 2m, so I'm moving to HF, 20m
>>>> being the most promising, I think. With the help of EZNEC (evaluation
>>>> version), I modeled a promising 20m dipole at 30'. It's almost exactly
>>>> 75 ohms resistive at the freqs I want to use and I'm going to feed it
>>>> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
>>>> the 75-ohm cable, if I need it.
>>
>>>> I'll report the results.
>>
>>>> "Sal"
>>>> KD6VKW ("Vicious Killer Weasel")
>>
>>> wow, it takes eznec to model a dipole for field day now? not that
>>> many years ago i ran a competition at field day... given a hunk of
>>> coax(with one connector installed), a roll of wire, and some random
>>> pieces of rope, cut a 10m dipole, get it up in the air, and make a
>>> contact. no eznec, a tape measure if you really wanted it, and who
>>> knows what the coax was.
>>
>> You take all the fun out of a guy's efforts.
>
> too many people spend all their time analyzing antennas and no time
> using them.

And some people spend all their time complaining about other people
analyzing antennas. Take your own advice.

1632. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-26 17:46:08 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <e2se07tetjnt28b8kuu3vrmugnii7suio9@4ax.com>
Source record: 4433

On Sun, 26 Jun 2011 11:51:51 -0500, John S <sophi.2@invalid.org>
wrote:

>On 6/26/2011 6:44 AM, dave wrote:
>> On Jun 25, 3:51 pm, Eskay<siebklaa...@SPAMhotmail.com> wrote:
>>> On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:
>>>> On Jun 24, 6:16 pm, "Sal M. Onella"<sob...@cox.net> wrote:
>>>>> I've participated in Field Day every year since 1993, when I was first
>>>>> licensed. Because I had a big 2m beam, I worked that band
>>>>> aggressively, sometimes making the most QSOs. Unfortunately we lost
>>>>> our hilltop FD site in 2009 and the 2m production "down low" was
>>>>> disappointing in '09 and '10.
>>>
>>>>> This year some youngsters want to work 2m, so I'm moving to HF, 20m
>>>>> being the most promising, I think. With the help of EZNEC (evaluation
>>>>> version), I modeled a promising 20m dipole at 30'. It's almost exactly
>>>>> 75 ohms resistive at the freqs I want to use and I'm going to feed it
>>>>> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
>>>>> the 75-ohm cable, if I need it.
>>>
>>>>> I'll report the results.
>>>
>>>>> "Sal"
>>>>> KD6VKW ("Vicious Killer Weasel")
>>>
>>>> wow, it takes eznec to model a dipole for field day now? not that
>>>> many years ago i ran a competition at field day... given a hunk of
>>>> coax(with one connector installed), a roll of wire, and some random
>>>> pieces of rope, cut a 10m dipole, get it up in the air, and make a
>>>> contact. no eznec, a tape measure if you really wanted it, and who
>>>> knows what the coax was.
>>>
>>> You take all the fun out of a guy's efforts.
>>
>> too many people spend all their time analyzing antennas and no time
>> using them.
>
>And some people spend all their time complaining about other people
>analyzing antennas. Take your own advice.

And some of us just throw up a piece of wire and are happy with it.

I need a drink.

Democrats view George Orwell's novel "1984" as a cautionary tale.

Republicans see the novel as their blueprint.

KATN

1633. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-26 18:56:19 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu7vcjvjc1@dont-email.me>
Source record: 4434

On 6/26/2011 12:46 PM, Kickin' Ass and Takin' Names wrote:
> On Sun, 26 Jun 2011 11:51:51 -0500, John S<sophi.2@invalid.org>
> wrote:
>
>> On 6/26/2011 6:44 AM, dave wrote:
>>> On Jun 25, 3:51 pm, Eskay<siebklaa...@SPAMhotmail.com> wrote:
>>>> On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:
>>>>> On Jun 24, 6:16 pm, "Sal M. Onella"<sob...@cox.net> wrote:
>>>>>> I've participated in Field Day every year since 1993, when I was first
>>>>>> licensed. Because I had a big 2m beam, I worked that band
>>>>>> aggressively, sometimes making the most QSOs. Unfortunately we lost
>>>>>> our hilltop FD site in 2009 and the 2m production "down low" was
>>>>>> disappointing in '09 and '10.
>>>>
>>>>>> This year some youngsters want to work 2m, so I'm moving to HF, 20m
>>>>>> being the most promising, I think. With the help of EZNEC (evaluation
>>>>>> version), I modeled a promising 20m dipole at 30'. It's almost exactly
>>>>>> 75 ohms resistive at the freqs I want to use and I'm going to feed it
>>>>>> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
>>>>>> the 75-ohm cable, if I need it.
>>>>
>>>>>> I'll report the results.
>>>>
>>>>>> "Sal"
>>>>>> KD6VKW ("Vicious Killer Weasel")
>>>>
>>>>> wow, it takes eznec to model a dipole for field day now? not that
>>>>> many years ago i ran a competition at field day... given a hunk of
>>>>> coax(with one connector installed), a roll of wire, and some random
>>>>> pieces of rope, cut a 10m dipole, get it up in the air, and make a
>>>>> contact. no eznec, a tape measure if you really wanted it, and who
>>>>> knows what the coax was.
>>>>
>>>> You take all the fun out of a guy's efforts.
>>>
>>> too many people spend all their time analyzing antennas and no time
>>> using them.
>>
>> And some people spend all their time complaining about other people
>> analyzing antennas. Take your own advice.
>
>
> And some of us just throw up a piece of wire and are happy with it.

And some of us strive for a higher education. To each his own.

> I need a drink.

I'm sure.

1634. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-27 03:34:25 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iu8tnr$f01c$1@tr22n12.aset.psu.edu>
Source record: 4435

On 6/26/2011 2:56 PM, John S wrote:
> On 6/26/2011 12:46 PM, Kickin' Ass and Takin' Names wrote:

>> And some of us just throw up a piece of wire and are happy with it.
>
> And some of us strive for a higher education. To each his own.

And we get that higher education in a netnews group? I enjoy this group, but it's the equivalent to getting marriage advice at a bar. Maybe good, but just as likely really bad.

- 73 de Mike N3LI -

1635. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-27 04:04:06 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iu8vfm$l61$1@dont-email.me>
Source record: 4436

On 6/26/2011 10:34 PM, Mike Coslo wrote:
> On 6/26/2011 2:56 PM, John S wrote:
>> On 6/26/2011 12:46 PM, Kickin' Ass and Takin' Names wrote:
>
>>> And some of us just throw up a piece of wire and are happy with it.
>>
>> And some of us strive for a higher education. To each his own.
>
> And we get that higher education in a netnews group? I enjoy this group,
> but it's the equivalent to getting marriage advice at a bar. Maybe good,
> but just as likely really bad.
>
> - 73 de Mike N3LI -

Maybe you are already educated beyond what is available here. If so,
good for you.

73,
John - KD5YI

1636. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-27 04:44:58 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <8a6100eb-fdbd-43ac-a25d-ff53051b23a4@e17g2000prj.googlegroups.com>
Source record: 4437

On Jun 25, 8:51 am, Eskay <siebklaa...@SPAMhotmail.com> wrote:
> On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:
> > On Jun 24, 6:16 pm, "Sal M. Onella" <sob...@cox.net> wrote:
> >> I've participated in Field Day every year since 1993, when I was first
> >> licensed. Because I had a big 2m beam, I worked that band
> >> aggressively, sometimes making the most QSOs. Unfortunately we lost
> >> our hilltop FD site in 2009 and the 2m production "down low" was
> >> disappointing in '09 and '10.
>
> >> This year some youngsters want to work 2m, so I'm moving to HF, 20m
> >> being the most promising, I think. With the help of EZNEC (evaluation
> >> version), I modeled a promising 20m dipole at 30'. It's almost exactly
> >> 75 ohms resistive at the freqs I want to use and I'm going to feed it
> >> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
> >> the 75-ohm cable, if I need it.
>
> >> I'll report the results.
>
> >> "Sal"
> >> KD6VKW ("Vicious Killer Weasel")
>
> > wow, it takes eznec to model a dipole for field day now? not that
> > many years ago i ran a competition at field day... given a hunk of
> > coax(with one connector installed), a roll of wire, and some random
> > pieces of rope, cut a 10m dipole, get it up in the air, and make a
> > contact. no eznec, a tape measure if you really wanted it, and who
> > knows what the coax was.
>
> You take all the fun out of a guy's efforts.

Yeah, kinda, but that's all right. I already have four working dipoles up at home, each produced much as Dave describes; 40, 20, 20, 10.

I was seeking optimization and I got it. Example: My TS-870 electronic display lights up five little dots for a 1.5:1 SWR. As installed, the new antenna gave me only three little dots -- most of it probably right at the back of the radio in the transition to 75 ohms. I am very, very pleased with the results.

20m was lit up like a Christmas tree all day and into the night. While operating 100W, I logged a new QSO every two to five minutes. (I'm nobody's idea of a contester.) Surprise -- broke a few pileups.

I oriented the antenna for max toward 060 degrees True, the bulk of North America from San Diego. Putting up three guyed 30-foot poles was quite the adventure but it all worked. No blood loss, one blister. :-)

"Sal"

PS: TS-870 reported an untuned 3:1 SWR on 15m, which the tuner handled easily. Many QSOs on 15m.

1637. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-27 13:19:46 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iua01e$jg78$1@tr22n12.aset.psu.edu>
Source record: 4438

On 6/27/2011 12:04 AM, John S wrote:
> On 6/26/2011 10:34 PM, Mike Coslo wrote:

>> And we get that higher education in a netnews group? I enjoy this group,
>> but it's the equivalent to getting marriage advice at a bar. Maybe good,
>> but just as likely really bad.

> Maybe you are already educated beyond what is available here. If so,
> good for you.

Have you tried out rec.radio.amateur.policy? I think it's your kind of
group.

- 73 de Mike N3LI -

1638. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-27 13:33:23 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iua0qu$ks2i$1@tr22n12.aset.psu.edu>
Source record: 4439

On 6/27/2011 12:44 AM, Sal M. Onella wrote:

> I was seeking optimization and I got it. Example: My TS-870
> electronic display lights up five little dots for a 1.5:1 SWR. As
> installed, the new antenna gave me only three little dots -- most of
> it probably right at the back of the radio in the transition to 75
> ohms. I am very, very pleased with the results.

The fun part of antenna modeling, at least for me, is seeing how close the real thing meets the design. We put up an antenna for FD, an 80 meter cut for the cw portion of the band, and hit it on the first try.

As for folks tuning up rain gutters and wire salvaged from an old toaster, then making an antenna out of it, that's fun too, but the final result isn't likely to be optimum.

- 73 de Mike N3LI -

1639. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-27 15:40:10 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iua88s$30g$1@dont-email.me>
Source record: 4440

On 6/27/2011 8:19 AM, Mike Coslo wrote:
> On 6/27/2011 12:04 AM, John S wrote:
>> On 6/26/2011 10:34 PM, Mike Coslo wrote:
>
>>> And we get that higher education in a netnews group? I enjoy this group,
>>> but it's the equivalent to getting marriage advice at a bar. Maybe good,
>>> but just as likely really bad.
>
>> Maybe you are already educated beyond what is available here. If so,
>> good for you.
>
> Have you tried out rec.radio.amateur.policy? I think it's your kind of
> group.
>
> - 73 de Mike N3LI -

And maybe you should try out rec.radio.amateur.know_it_all. I'm sure
you'd be in good company.

John

1640. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-27 17:01:14 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <dlch07p12nf7j1hmpegcptld9mmd7d6s0k@4ax.com>
Source record: 4441

On Mon, 27 Jun 2011 09:33:23 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>On 6/27/2011 12:44 AM, Sal M. Onella wrote:
>
>> I was seeking optimization and I got it. Example: My TS-870
>> electronic display lights up five little dots for a 1.5:1 SWR. As
>> installed, the new antenna gave me only three little dots -- most of
>> it probably right at the back of the radio in the transition to 75
>> ohms. I am very, very pleased with the results.
>
>The fun part of antenna modeling, at least for me, is seeing how close
>the real thing meets the design. We put up an antenna for FD, an 80
>meter cut for the cw portion of the band, and hit it on the first try.
>
>As for folks tuning up rain gutters and wire salvaged from an old
>toaster, then making an antenna out of it, that's fun too, but the final
>result isn't likely to be optimum.
>
> - 73 de Mike N3LI -

I use EZNEC 5 nearly every day. It saves me time & money. I can minimize my physical work as well. At 71 years old that is getting more important every day. Last week I took down my Fan of dipoles and put up a 40m half wave in series with an 80 meter half wave, fed at 33% from one end. The wire was handy and so was the room. What a waste and in 90 degree + weather too. If I had modelled it first, I would have done it. Hard to feed everywhere and the low activity seem to endorse the computed patterns.

I ran an inverted Vee through EZ5 with 43 foot wires on each side and it looked as good as anything on 40 & 80M and was easy to tune about anywhere. The testing has supported that the 30M and up patterns are not nearly as useful as the corresponding dipoles, but it does work everywhere. I got the 43 foot wires by simply folding the excess from an 80M dipole and taping them. Nothing permanent, no $ spent. I will likely keep this for 40 & 80. Probably back to adding in a couple of dipoles for 30 & 17 in a fan configuration while I consider my first venture into my first Quad effort.

20-15-10 are covered with an A3S Cushcraft at 60 feet. I don't understand it, but it works good.

1641. 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 01:21:50 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <iubabfpnk1@dont-email.me>
Source record: 4442

I have seen two commercial antennas advertised that are each 43 feet tall,
and have no traps/stubs, etc.
There appears to be a 4:1 balun at the feedpoint. Mentioned, is the
requirement to have a tuner at the driving end of the feedline, and max
VSWRs in the 4:1 range.

Playing around a bit with EZNEC, the feedpoint impedances over the
operating range have some large swings. Can anyone shed light on how
effective the antenna should be?
Wayne
W5GIE

1642. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 02:19:18 UTC
From: tom <news4792@taring.org>
Message-ID: <4e093a26$0$79799$8046368a@newsreader.iphouse.net>
Source record: 4443

On 6/26/2011 6:44 AM, dave wrote:
> On Jun 25, 3:51 pm, Eskay<siebklaa...@SPAMhotmail.com> wrote:
>> On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:
>>
>>> wow, it takes eznec to model a dipole for field day now? not that
>>> many years ago i ran a competition at field day... given a hunk of
>>> coax(with one connector installed), a roll of wire, and some random
>>> pieces of rope, cut a 10m dipole, get it up in the air, and make a
>>> contact. no eznec, a tape measure if you really wanted it, and who
>>> knows what the coax was.
>>
>> You take all the fun out of a guy's efforts.
>
> too many people spend all their time analyzing antennas and no time
> using them.

That is a disease that affects, as a SWAG, about 80% of the core
population here.

Then there are the people that ask questions because they are trying to
actually build something. Who almost always get what is effectively
GobbldeeGook in response.

All they just want to know how to make something that is "OK, works good
enough" and they have to wade through dozens of useless responses to
maybe get one that's worthwhile.

Welcome to rraa, where no one "important" ever agrees.

tom
K0TAR

1643. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 02:22:56 UTC
From: tom <news4792@taring.org>
Message-ID: <4e093aff$0$79799$8046368a@newsreader.iphouse.net>
Source record: 4444

> --
>
> Democrats view George Orwell's novel "1984" as a cautionary tale.
>
> Republicans see the novel as their blueprint.
>
> KATN

And some people can't help proving they are fools by playing politics in areas that should not be.

tom
K0TAR

1644. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 03:14:38 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iubguu$jg26$1@tr22n12.aset.psu.edu>
Source record: 4445

On 6/27/2011 11:40 AM, John S wrote:
> On 6/27/2011 8:19 AM, Mike Coslo wrote:

>> Have you tried out rec.radio.amateur.policy? I think it's your kind of
>> group.
>>
>> - 73 de Mike N3LI -
>
> And maybe you should try out rec.radio.amateur.know_it_all. I'm sure
> you'd be in good company.

Why John, you must be pulling me leg here. I looked for that group, and couldn't find it. 8^)

- 73 de Mike N3LI -

1645. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 03:20:32 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iubha0$jg28$1@tr22n12.aset.psu.edu>
Source record: 4446

On 6/27/2011 10:19 PM, tom wrote:

> Then there are the people that ask questions because they are trying to
> actually build something. Who almost always get what is effectively
> GobbldeeGook in response.

Hi Tom,

This reminds me, is Art still around? I hope nothing has happened to the old gent.

(I've been absent for several months)

- 73 de Mike N3LI -

1646. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 03:35:23 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iubi5t$ku4$1@dont-email.me>
Source record: 4447

On 6/27/2011 10:14 PM, Mike Coslo wrote:
> On 6/27/2011 11:40 AM, John S wrote:
>> On 6/27/2011 8:19 AM, Mike Coslo wrote:
>
>>> Have you tried out rec.radio.amateur.policy? I think it's your kind of
>>> group.
>>>
>>> - 73 de Mike N3LI -
>>
>> And maybe you should try out rec.radio.amateur.know_it_all. I'm sure
>> you'd be in good company.
>
> Why John, you must be pulling me leg here. I looked for that group, and
> couldn't find it. 8^)
>
> - 73 de Mike N3LI -

Okay. You got me.

John

1647. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 15:38:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <35bd3bea-7b2c-4cd6-a8cd-9b1ca108de90@a15g2000pri.googlegroups.com>
Source record: 4448

On Jun 24, 7:17 pm, Mike Coslo <m...@psu.edu> wrote:
> Okay, Cecil - now work phlogiston theory into this, and I'll buy you a beer.

Exactly what is wrong with the concept of a "quantum aether"?
--
73, Cecil, w5dxp.com

1648. Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:00:44 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <64bdb886-3942-4de4-a02b-377fc739be70@h17g2000yqn.googlegroups.com>
Source record: 4450

I was researching multi-element driven array antennas when I stumbled across the web page below. It talks about a curtain quad antenna. Is this proven antenna design or antenna snake oil?

http://home.comcast.net/~ross_anderson/CurtainQuad.htm

-Michael Rawls
KS4HY

1649. Part time home based Form Filling Jobs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:01:54 UTC
From: grdvijey <grdvijeyonline@gmail.com>
Message-ID: <78f5a69e-d555-429d-975b-873240be9c26@h12g2000pro.googlegroups.com>
Source record: 4449

Earn 5$ to 50$ per day by doing simple Form Filling Jobs
Just copy the below linkand paste into the address bar
http://grdonlinejobs.yolasite.com

1650. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:02:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i55k079vuh861lnslgek6fvg3s72qmvqg6@4ax.com>
Source record: 4352

On Mon, 27 Jun 2011 18:21:50 -0700, "Wayne" <mygarbagecan@verizon.net>
wrote:

>I have seen two commercial antennas advertised that are each 43 feet tall,
>and have no traps/stubs, etc.
>There appears to be a 4:1 balun at the feedpoint. Mentioned, is the
>requirement to have a tuner at the driving end of the feedline, and max
>VSWRs in the 4:1 range.
>
>Playing around a bit with EZNEC, the feedpoint impedances over the
>operating range have some large swings. Can anyone shed light on how
>effective the antenna should be?
>Wayne
>W5GIE

Hi Wayne,

Actually, it depends more on the ground, or its proximity. If you can
get all the energy into the antenna (hence the tuner and BalUn), then
it leaves (the whole point of our hobby). If you have very few
radials and you are close to ground, when that energy leaves, a lot of
it is absorbed into the ground (not very productive).

Now, the height of this radiator can be something of bad thing for the
higher bands. 10M will become deaf because most of the energy is
oriented high into the sky, and deep into the ground. True, you
"could" force a decent match, but that is only half the story of
antennas. The same is probably true for 11M, 12M, down to a fairly
good match and operational application for 20M and below to, maybe,
60M.

EZNEC should bear out instructive numbers and graphics to all these
observations.

One curiosity about this - the 4:1 BalUns. This sounds like a Hail
Mary throw - a sop for the sucker. Do you count yourself among that
select population? Why? Because technically they would be UnUns.
Further, it is strange to think that a transformation ratio of 4:1 is
applicable anywhere, much less everywhere.

73's
Richard Clark, KB7QHC

1651. Part time home based PPC Form Filling Jobs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:02:38 UTC
From: grdvijey <grdvijeyonline@gmail.com>
Message-ID: <ba083778-3800-4332-a785-fa7db497874d@x38g2000pri.googlegroups.com>
Source record: 4351

Earn 5$ to 50$ per day by doing simple PPC Form Filling
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http://grdonlinejobs.yolasite.com

1652. Part time home based Ad Posting Jobs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:03:05 UTC
From: grdvijey <grdvijeyonline@gmail.com>
Message-ID: <297cf505-9192-487f-af77-98908fdbe283@z7g2000prh.googlegroups.com>
Source record: 4354

Earn 5$ to 50$ per day by doing simple Ad Posting Jobs
Just copy the below link and paste into the address bar
http://grdonlinejobs.yolasite.com

1653. Part time home based Data Conversion Jobs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:03:36 UTC
From: grdvijey <grdvijeyonline@gmail.com>
Message-ID: <c50625f8-f849-4c8c-adf2-761f68e47719@l2g2000prg.googlegroups.com>
Source record: 4353

Earn 5$ to 50$ per day by doing simple Data Conversion Jobs
Just copy the below link and paste into the address bar
http://grdonlinejobs.yolasite.com

1654. Part time home based Online Form Filling Jobs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:04:03 UTC
From: grdvijey <grdvijeyonline@gmail.com>
Message-ID: <fdf5713a-591c-410f-83f7-8577762a0f23@q14g2000prh.googlegroups.com>
Source record: 4359

Earn 5$ to 50$ per day by doing simple Online Form Filling
Jobs Just copy the below link and paste into the address bar
http://grdonlinejobs.yolasite.com

1655. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:11:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <216k07h6ogdoinf73qtpco0momedhrbh8t@4ax.com>
Source record: 4355

On Tue, 28 Jun 2011 11:00:44 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

>
> I was researching multi-element driven array antennas when I stumbled
>across the web page below. It talks about a curtain quad antenna. Is
>this proven antenna design or antenna snake oil?
>
>http://home.comcast.net/~ross_anderson/CurtainQuad.htm
>
>-Michael Rawls
>KS4HY

Hi Michael,

Looks like the author went to a lot of trouble - with passion.

There is nothing unreasonable about the design or the results.
However, you should note these designs are highly removed from
ground's proximity which can skew many, finely tuned projects.

You should also note what is typically referred to as the decline on
return for your investment as the design gets bigger. Further, in
actual construction, you rarely obtain the mathematical precision that
is required to enjoy the forecasted results.

73's
Richard Clark, KB7QHC

1656. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:16:26 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4e0a1a88$0$2456$65785112@news.neostrada.pl>
Source record: 4356

"Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:35bd3bea-7b2c-4cd6-a8cd-9b1ca108de90@a15g2000pri.googlegroups.com...
On Jun 24, 7:17 pm, Mike Coslo <m...@psu.edu> wrote:
>> Okay, Cecil - now work phlogiston theory into this, and I'll buy you a
>> beer.

>Exactly what is wrong with the concept of a "quantum aether"?

And what about of Dirac see: "The Dirac sea is a theoretical model of the
vacuum as an infinite sea of particles with negative energy".
S*

1657. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:27:24 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <iud6eegnf1@dont-email.me>
Source record: 4357

"Richard Clark" wrote in message
news:i55k079vuh861lnslgek6fvg3s72qmvqg6@4ax.com...

On Mon, 27 Jun 2011 18:21:50 -0700, "Wayne" <mygarbagecan@verizon.net>
wrote:

>I have seen two commercial antennas advertised that are each 43 feet tall,
>and have no traps/stubs, etc.
>There appears to be a 4:1 balun at the feedpoint. Mentioned, is the
>requirement to have a tuner at the driving end of the feedline, and max
>VSWRs in the 4:1 range.
>
>Playing around a bit with EZNEC, the feedpoint impedances over the
>operating range have some large swings. Can anyone shed light on how
>effective the antenna should be?
>Wayne
>W5GIE

Hi Wayne,

Actually, it depends more on the ground, or its proximity. If you can
get all the energy into the antenna (hence the tuner and BalUn), then
it leaves (the whole point of our hobby). If you have very few
radials and you are close to ground, when that energy leaves, a lot of
it is absorbed into the ground (not very productive).

Now, the height of this radiator can be something of bad thing for the
higher bands. 10M will become deaf because most of the energy is
oriented high into the sky, and deep into the ground. True, you
"could" force a decent match, but that is only half the story of
antennas. The same is probably true for 11M, 12M, down to a fairly
good match and operational application for 20M and below to, maybe,
60M.

EZNEC should bear out instructive numbers and graphics to all these
observations.

One curiosity about this - the 4:1 BalUns. This sounds like a Hail
Mary throw - a sop for the sucker. Do you count yourself among that
select population? Why? Because technically they would be UnUns.
Further, it is strange to think that a transformation ratio of 4:1 is
applicable anywhere, much less everywhere.

73's
Richard Clark, KB7QHC
****
Thanks for the comments Richard. Indeed, the EZNEC model that I looked even

created a question of which direction was best for a 4:1 "balun". That would require more examination of the data than I have yet done.

My interest would be in a half sized version of the antenna (or less) for 20m and above. I have a pretty good ground available in the form of a metal patio cover. The no-brainer approach is to use full sized 1/4 wave radiators for various bands. But a simple way of tuning a single radiator for multiple bands is more appealing, since band changes are much simpler.
--Wayne
W5GIE (in exile in W6-land)

1658. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:38:55 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <m67k079okqp98po1hq2omdnbeprm0pbjmu@4ax.com>
Source record: 4358

On Tue, 28 Jun 2011 11:00:44 -0700 (PDT), Michael
<google@shadowstorm.com> wrote:

> I was researching multi-element driven array antennas when I stumbled
>across the web page below. It talks about a curtain quad antenna. Is
>this proven antenna design or antenna snake oil?
>
>http://home.comcast.net/~ross_anderson/CurtainQuad.htm

Very real. I built the 2.4Ghz version. It works, but is rather
large. Unless you have plenty of real estate and tall towers, this is
not an HF antenna.

His curtain quad calculations and NEC2 deck are at:
<http://home.comcast.net/~ross_anderson/CurtainQuadFigure11.htm>

There's also the Sterba Curtain
<http://imageevent.com/holl_ands/notfortv/sterba;jsessionid=ldhsj5x2v1.penguin_s>
Gray-Hoverman
<http://imageevent.com/holl_ands/grayhoverman/hovermantype1>
and other antennas
<http://imageevent.com/holl_ands/chireix/chireixmesnyrefl>
resembling a collection of quads. As long as you get the phasing
correct, almost any geometry will radiate and have gain.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1659. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 18:58:43 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iud892bmv1@news.jpl.nasa.gov>
Source record: 4360

On 6/28/2011 11:02 AM, Richard Clark wrote:
>
> One curiosity about this - the 4:1 BalUns.

As with many of these "matching devices at the base of a vertical" they're not actually a broadband 4:1 ideal transformer. they tend to have a fair amount of leakage inductance and capacitance, and (by empiricism) they have a design which generally improves the match over a wide band. At low frequencies, where the feedpoint Z is low, the shunting effect of the interwinding C isn't as big, so it acts more like a transformer. At higher frequencies where the feedpoint Z is higher, the interwinding C tends to "bypass" the transformer, so it works less like a transformer, and you see more of the Z of the antenna.

You can fool around with some test data and a lumped model (with lots of parasitics) and come up with some numbers for the parasitics that works out pretty well and combined with some loss in the feedline, makes the typical match at the transmitter end not too bad (within the range of a tuner that can handle, say, 2.5:1 or 3:1, mostly reactive)

It is almost impossible to *design* such a thing from that data. I am quite certain that these things were designed by empiricism. Spreading the windings or squishing them, choosing various winding ratios, etc. until it works "good enough".

The underlying problem is, as you pointed out, that a 43 foot radiator on higher bands has a pattern that is somewhat less than ideal.

A trapped vertical might be a better solution, although mechanically a bit more complex and definitely more "antenna looking"..

1660. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 19:16:23 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iud9a7$c42$1@news.jpl.nasa.gov>
Source record: 4361

On 6/28/2011 11:27 AM, Wayne wrote:
>
>
> "Richard Clark" wrote in message
> news:i55k079vuh861lnslgek6fvg3s72qmvqg6@4ax.com...
>
> On Mon, 27 Jun 2011 18:21:50 -0700, "Wayne" <mygarbagecan@verizon.net>
> wrote:
>
>> I have seen two commercial antennas advertised that are each 43 feet
>> tall,
>> and have no traps/stubs, etc.
>> There appears to be a 4:1 balun at the feedpoint. Mentioned, is the
>> requirement to have a tuner at the driving end of the feedline, and max
>> VSWRs in the 4:1 range.
>>
>> Playing around a bit with EZNEC, the feedpoint impedances over the
>> operating range have some large swings. Can anyone shed light on how
>> effective the antenna should be?
>> Wayne
>> W5GIE
>
> Hi Wayne,
>
> Actually, it depends more on the ground, or its proximity. If you can
> get all the energy into the antenna (hence the tuner and BalUn), then
> it leaves (the whole point of our hobby). If you have very few
> radials and you are close to ground, when that energy leaves, a lot of
> it is absorbed into the ground (not very productive).
>
> Now, the height of this radiator can be something of bad thing for the
> higher bands. 10M will become deaf because most of the energy is
> oriented high into the sky, and deep into the ground. True, you
> "could" force a decent match, but that is only half the story of
> antennas. The same is probably true for 11M, 12M, down to a fairly
> good match and operational application for 20M and below to, maybe,
> 60M.
>
> EZNEC should bear out instructive numbers and graphics to all these
> observations.
>
> One curiosity about this - the 4:1 BalUns. This sounds like a Hail
> Mary throw - a sop for the sucker. Do you count yourself among that
> select population? Why? Because technically they would be UnUns.

> Further, it is strange to think that a transformation ratio of 4:1 is
> applicable anywhere, much less everywhere.
>
> 73's
> Richard Clark, KB7QHC
> **********
> Thanks for the comments Richard. Indeed, the EZNEC model that I looked
> even created a question of which direction was best for a 4:1 "balun".
> That would require more examination of the data than I have yet done.
>
> My interest would be in a half sized version of the antenna (or less)
> for 20m and above. I have a pretty good ground available in the form of
> a metal patio cover. The no-brainer approach is to use full sized 1/4
> wave radiators for various bands. But a simple way of tuning a single
> radiator for multiple bands is more appealing, since band changes are
> much simpler.
>

There are some very clever lumped networks which will tune multiple bands with a single radiator. They're a lot more complex than a simple L and C, (in general, at least one L and one C per band), and they're not designable by simple paper and pencil techniques (so they don't show up in QST articles or in the handbooks), but with a computer to help, it can be done.

Over a 2:1 frequency range, the pattern issues aren't as big a deal too.. You could pick a radiator that's sort of in between.. it's a bit long for 10m and a bit short for 20m.

1661. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-28 21:31:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vghk079g2kia17tejv9sdv1rku8muepvo7@4ax.com>
Source record: 4362

On Tue, 28 Jun 2011 11:27:24 -0700, "Wayne" <mygarbagecan@verizon.net>
wrote:

>Thanks for the comments Richard. Indeed, the EZNEC model that I looked even
>created a question of which direction was best for a 4:1 "balun". That
>would require more examination of the data than I have yet done.

Hi Wayne,

The Hail Mary I spoke of also includes:
>>requirement to have a tuner at the driving end of the feedline
Kind of a belt and suspenders solution which in the long run makes
this purchase an expensive option to simply buying staged tubing. In
that respect, the only value added could be a decent mount....

>My interest would be in a half sized version of the antenna (or less) for
>20m and above.

Hmmm, sounds like you are a prospect for my suggestion of staged
tubing.

>I have a pretty good ground available in the form of a metal
>patio cover.

And I would presume this to mean an elevated vertical design - good.

>The no-brainer approach is to use full sized 1/4 wave
>radiators for various bands.

There's no obvious advantage there when you have to use a tuner
anyway. They would be helpful in taming the mismatch, so go ahead.

>But a simple way of tuning a single radiator
>for multiple bands is more appealing, since band changes are much simpler.

Look into the topic of "folded monopoles."

73's
Richard Clark, KB7QHC

1662. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 00:10:39 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <5brk07pvmpo510p67umh589pvrdh3ejm2k@4ax.com>
Source record: 4363

On Mon, 27 Jun 2011 18:21:50 -0700, "Wayne" <mygarbagecan@verizon.net>
wrote:

>I have seen two commercial antennas advertised that are each 43 feet tall,
>and have no traps/stubs, etc.
>There appears to be a 4:1 balun at the feedpoint. Mentioned, is the
>requirement to have a tuner at the driving end of the feedline, and max
>VSWRs in the 4:1 range.
>
>Playing around a bit with EZNEC, the feedpoint impedances over the
>operating range have some large swings. Can anyone shed light on how
>effective the antenna should be?
>Wayne
>W5GIE

I bet it radiates equally poorly in all directions.

Democrats view George Orwell's novel "1984" as a cautionary tale.

Republicans see the novel as their blueprint.

KATN

1663. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 01:34:35 UTC
From: tom <news4792@taring.org>
Message-ID: <4e0a812a$0$79797$8046368a@newsreader.iphouse.net>
Source record: 4364

On 6/27/2011 10:20 PM, Mike Coslo wrote:
> On 6/27/2011 10:19 PM, tom wrote:
>
>> Then there are the people that ask questions because they are trying to
>> actually build something. Who almost always get what is effectively
>> GobbldeeGook in response.
>
> Hi Tom,
>
> This reminds me, is Art still around? I hope nothing has happened to the
> old gent.
>
> (I've been absent for several months)
>
> - 73 de Mike N3LI -

Haven't seen him since roughly the new year. His protege is back though.

tom
K0TAR

1664. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 01:39:36 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <4036b24f-8d9c-4a16-9622-0f301f0f3967@f39g2000prb.googlegroups.com>
Source record: 4365

On Jun 25, 8:51 am, Eskay <siebklaa...@SPAMhotmail.com> wrote:
> On Sat, 25 Jun 2011 03:59:55 -0700 (PDT), dave wrote:
> > On Jun 24, 6:16 pm, "Sal M. Onella" <sob...@cox.net> wrote:
> >> I've participated in Field Day every year since 1993, when I was first
> >> licensed. Because I had a big 2m beam, I worked that band
> >> aggressively, sometimes making the most QSOs. Unfortunately we lost
> >> our hilltop FD site in 2009 and the 2m production "down low" was
> >> disappointing in '09 and '10.
>
> >> This year some youngsters want to work 2m, so I'm moving to HF, 20m
> >> being the most promising, I think. With the help of EZNEC (evaluation
> >> version), I modeled a promising 20m dipole at 30'. It's almost exactly
> >> 75 ohms resistive at the freqs I want to use and I'm going to feed it
> >> with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
> >> the 75-ohm cable, if I need it.
>
> >> I'll report the results.
>
> >> "Sal"
> >> KD6VKW ("Vicious Killer Weasel")
>
> > wow, it takes eznec to model a dipole for field day now? not that
> > many years ago i ran a competition at field day... given a hunk of
> > coax(with one connector installed), a roll of wire, and some random
> > pieces of rope, cut a 10m dipole, get it up in the air, and make a
> > contact. no eznec, a tape measure if you really wanted it, and who
> > knows what the coax was.
>
> You take all the fun out of a guy's efforts.

This is only a test post. I have responded to this particular item
twice, once on Sunday and once yesterday. Neither one showed up.
Nothing in what I said would have been censored for any reason. Odd.
I think it said post was successful. I'm checking that now and will
wait to see if this appears in the group.

"Sal"

1665. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 01:54:05 UTC
From: tom <news4792@taring.org>
Message-ID: <4e0a85bd$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4366

On 6/28/2011 1:11 PM, Richard Clark wrote:
> On Tue, 28 Jun 2011 11:00:44 -0700 (PDT), Michael
> <google@shadowstorm.com> wrote:
>
>>
>> I was researching multi-element driven array antennas when I stumbled
>> across the web page below. It talks about a curtain quad antenna. Is
>> this proven antenna design or antenna snake oil?
>>
>> http://home.comcast.net/~ross_anderson/CurtainQuad.htm
>>
>> -Michael Rawls
>> KS4HY
>
> Hi Michael,
>
> Looks like the author went to a lot of trouble - with passion.
>
> There is nothing unreasonable about the design or the results.
> However, you should note these designs are highly removed from
> ground's proximity which can skew many, finely tuned projects.
>
> You should also note what is typically referred to as the decline on
> return for your investment as the design gets bigger. Further, in
> actual construction, you rarely obtain the mathematical precision that
> is required to enjoy the forecasted results.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

I note that these were designed at 1296. They would likely be a
practical antenna on that band and ground would not be an issue although
trees may be.

I wonder how hard it would be to make one as a printed circuit board?

Not too long do I wonder. The structure will be exactly as defined
within limits of the board specs.

The only issue is how large PCB stock I can buy.

tom
K0TAR

1666. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 01:55:57 UTC
From: NM5K <noonehome@invalid.net>
Message-ID: <4E0A862D.7FE6@invalid.net>
Source record: 4367

Sal M. Onella wrote:

>
> This is only a test post. I have responded to this particular item
> twice, once on Sunday and once yesterday. Neither one showed up.
> Nothing in what I said would have been censored for any reason. Odd.
> I think it said post was successful. I'm checking that now and will
> wait to see if this appears in the group.
>
> "Sal"

It's unlikely you will see this, but google groups has been
down since the 25th. It seems to be allowing posts, but it's
not showing any new posts since the 25th.
That's why you are not seeing your posts.

1667. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 02:59:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ul4l07dikv7lpulqrush3h2pd2bu3b16r5@4ax.com>
Source record: 4368

On Tue, 28 Jun 2011 20:54:05 -0500, tom <news4792@taring.org> wrote:

>Hi Richard,
>
>I note that these were designed at 1296. They would likely be a
>practical antenna on that band and ground would not be an issue although
>trees may be.
>
>I wonder how hard it would be to make one as a printed circuit board?
>
>Not too long do I wonder. The structure will be exactly as defined
>within limits of the board specs.
>
>The only issue is how large PCB stock I can buy.
>
>tom
>K0TAR

Hi Tom,

If you could generate a graphic with controlled geometry at that
scale, and then etch it, yes, I think it would work quite well.

I will now (most modestly) add my own contributions posted some
decade++ ago (humble, humble) at:
http://www.qsl.net/kb7qhc/antenna/fractal/pg244c/index.htm
for which we may thank the ex-N1IR (who graciously abandoned his
soiled moniker for another to inherit) for the fractal variant to
orthodoxy. Oh woe betides the unknowing innocent for whom this may
all seem irreverent and confusingly impenetrable. (Yes, I am in my
cups. Taking a bow. Grandiloquent sweeping gesture to the audience.)

73's
Richard Clark, KB7QHC

1668. Moses 1-27-00

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 04:04:22 UTC
From: mcinn <mcinnez@yahoo.com>
Message-ID: <e10cec91-7f32-48ae-be9c-181eff080806@s17g2000yqs.googlegroups.com>
Source record: 4369

Moses says,
"Love for The Divine did not register quickly in many minds, but at the Birth of The Son of The Creator, mankind became aware of a Higher Being, the True Existence that there was a Divine. At this time in which you live, there are numerous evidences that many, many, many, many men, women and children do not recognize the True Existence of a Creator and All that surrounds The Creator as Ultimate in Purpose, Cause, Reason and Reality."

REVELATION DELIVERED THROUGH FRANCES M. KLUG ON JANUARY 27,2000 AT 2:30 P.M.

MOSES

"I am Moses. Throughout time, human life has been fully aware of the importance of a moral code of ethics versus an immoral code of ethics. In the beginning of Christianity, The Son of The Father stood upon the earth in the human form, as Example, as Direction, as Hope, so that others would learn about the importance of human actions and human abilities, plus human dignities that were perhaps not just normal, but necessary.

Love for The Divine did not register quickly in many minds, but at the Birth of The Son of The Creator, mankind became aware of a Higher Being, the True Existence that there was a Divine. At this time in which you live, there are numerous evidences that many, many, many, many men, women and children do not recognize the True Existence of a Creator and All that surrounds The Creator as Ultimate in Purpose, Cause, Reason and Reality.

As We Saints try in many ways to enlighten mankind of the importance of purity in the mind, in the body, because of the Soul each one is the custodian of, We find that indifference, based on demonic measures, is always evident, because the enemy causes interference that, to individuals, give excuses to not abide by the Commandments of The Creator.

As The Father down through time, since the beginning of time, has used human life, human lives, to be Example, to be Instructors, and to act morally sound, The Father at this time has given to mankind an additional Gift of Divine Love, Words of Direction that cannot be dismissed as normal or personal to the individual through which They come. I assure you It is strictly Guided, Guarded and Delivered by The Divine, just as it was at another time.

The Gift of life is a Gift not always seen for the greatness it is, but there is hope in it, there are Rules that guide it, and there is definitely a Divine Love instilled in it that no other living matter or thing has.

As I speak to you today, I beseech you, look at what is pure, logical, understandable, and has a Goal to it, and resist what is obviously more pleasing to what would be impure, unkind, unjust, totally different than what you can visualize The Kingdom of God to be. So be it."

Saint Joseph's Hill Of Hope
Brea, California 92822 U.S.A.
www.TheMiracleOfStJoseph.org
All Revelations are delivered spontaneously
and continuously as witnessed by all those present at the time.
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1669. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 16:04:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d65b5120-99c0-456b-b1a4-31434101278b@g16g2000yqg.googlegroups.com>
Source record: 4370

On Jun 25, 5:25 pm, John S <soph...@invalid.org> wrote:
> But, it does. First, it causes the 50 ohms line (looking into the 291.4
> ohms line to see a match due to the reflection. Second, the
> re-reflection from that discontinuity is half of what maintains the
> circulating energy on the line. The other half is the discontinuity of
> the non-virtual load.

You are confusing reflection with wave cancellation (destructive interference). I suggest that you study the separate sections on reflections vs interference in "Optics", by Hecht. Nowhere does any optical textbook indicate that superposition and reflection are the same thing (and they are indeed NOT the same thing).

Superposition/interference applies to two or more waves. Reflection applies to a single wave. When a reflected wave is re-reflected, it is always a single wave event. Take a look at one of the s-parameter equations:

b1 = s11(a1) + s12(a2) = 0

b1 is the reflected voltage toward the source which is, of course, zero when looking into a Z0-match.

s11(a1) is the forward source wave reflected from the physical impedance discontinuity at the Z0-match point. Note: This is a single reflected component of a single forward wave.

s12(a2) is the part of the reflected wave from the load that is transmitted back through the impedance discontinuity at the Z0-match point. Note: This is a single transmitted component of a single reflected wave.

Reflections are now over and done with. What happens next is superposition/interference, i.e. the phasor addition of the two component reflections. Note: The results of the phasor addition of two component waves is NOT a reflection!!!

The zero result of the addition of those two phasors is associated with destructive interference toward the load. That's what causes the 50 ohm Z0-match, not the component reflections. The redistribution of the destructive interference energy back toward the load is NOT a re-reflection and here's why:

A re-reflection preserves the modulation content of the re-reflected wave which can be proved by TV ghosting experiments. Wave cancellation due to destructive interference does NOT preserve the modulation. In fact, any differences in modulation between the two superposed wave

components would wind up incident upon the source.
--
73, Cecil, w5dxp.com

1670. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 16:12:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <72b3ecad-9670-4b73-af39-13f4569ac751@j15g2000yqf.googlegroups.com>
Source record: 4371

On Jun 26, 6:43 am, dave <k1ttt%pstn2....@gtempaccount.com> wrote:
> when someone gives me a voltmeter i can touch to that connection point
> and measure the 4 components then we can talk.

I could design an expensive device that will do exactly that but it is
a lot easier to just calculate the values using Mathcad.
--
73, Cecil, w5dxp.com

1671. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 18:55:38 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <350711a6-166d-4a01-9bbd-81d6bfc957dc@r21g2000pri.googlegroups.com>
Source record: 4372

On Jun 26, 8:34 pm, Mike Coslo <m...@psu.edu> wrote:
> On 6/26/2011 2:56 PM, John S wrote:
>
> > On 6/26/2011 12:46 PM, Kickin' Ass and Takin' Names wrote:
> >> And some of us just throw up a piece of wire and are happy with it.
>
> > And some of us strive for a higher education. To each his own.
>
> And we get that higher education in a netnews group? I enjoy this group,
> but it's the equivalent to getting marriage advice at a bar. Maybe good,
> but just as likely really bad.
>
> - 73 de Mike N3LI -

Oh, Mike, you made a funny! Having been married for more than forty
years, I'm surprised to learn there is even such a thing as good
marriage advice.

73,
Sal

1672. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 19:06:30 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <7b888b48-d908-4a38-bd36-890a9a9ca8b3@t38g2000prj.googlegroups.com>
Source record: 4377

On Jun 27, 6:33 am, Mike Coslo <m...@psu.edu> wrote:

>
> As for folks tuning up rain gutters and wire salvaged from an old
> toaster, then making an antenna out of it, that's fun too, but the final
> result isn't likely to be optimum.
>

Yes!

I know I've told this story here before, but ...

My first HF antenna was a 10m vertical sleeve dipole. It was mounted
only a few feet above ground. With a tuner,
I matched 15m but not 20m. I knew I needed more metal on at least one
element, so I grabbed a clip lead and a hunk of wire and headed
outside. Near the antenna, I almost tripped over an extension ladder
laying on the ground. This is a sign, I thought. I tossed the wire
and dragged the ladder over to the dipole and clipped it onto the
lower element.

Back inside, I tuned up nicely on 20m and answered a CQ. Had a nice
chat with a fellow in Hawaii; five-by copy both ways.

Some wag in this group suggested "ladder line" might improve the
setup. Good one.

"Sal"

1673. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 19:08:02 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <c125efca-2e6c-45c7-9012-bfacd31144db@f39g2000prb.googlegroups.com>
Source record: 4373

On Jun 26, 10:46 am, Kickin' Ass and Takin' Names
<PopUlist...@hotmail.com> wrote:

< snip >

> And some of us just throw up a piece of wire and are happy with it.

True, but that ignores what is for me the essence of our hobby,
namely,
"Let's try this and see what happens." We're looking for betterment.

Sometime we make smoke (Me, twice, so far.)
Sometime we make a pleasing discovery. (Me, too many times to count.)

I will not be changing to the " ... throw a piece of wire ..." school
of thought,
as my organized (or maybe semi-organized :-) experimental process is
more enjoyable.

I should add I spend more time in QSO than I do playing with the
theory.

73,
"Sal"

1674. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 19:08:22 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <932db840-6c8b-4e85-863b-b4e846d24a69@17g2000prr.googlegroups.com>
Source record: 4375

On Jun 25, 3:28 pm, Owen Duffy <o...@owenduffy.net> wrote:
> Hi Sal,
>
> On Saturday, 25 June 2011 04:16:42 UTC+10, Sal M. Onella wrote:
> ...
>
> > being the most promising, I think. With the help of EZNEC (evaluation
> > version), I modeled a promising 20m dipole at 30'. It's almost exactly
> > 75 ohms resistive at the freqs I want to use and I'm going to feed it
> > with RG-6, 0.7 dB/100 feet. My radio has an internal tuner to match
> > the 75-ohm cable, if I need it.
>
> That sounds fine as far as it goes.
>
> You might consider a 1:1 current balun, a W2DU style one should suit this application fine.

>
> Owen

Thanks. I did have the current balun but failed to mention it. I had
25 Mix 43 beads, Coil Winding Specialist P/N SB-6873-43. I see now
(my after-the-fact research) that Mix 73 would have been more
effective at 20m. ("We get too soon old and too late smart.")

I have baluns on all my dipoles, two voltage baluns and two eight-turn
coax cable wound baluns on my home station and a spare eight-turn
balun in my travel box.

I have read that the W2DU balun should be repeated at intervals along
the feedline, some wavelength fraction, but I found no confirmation in
ten minutes of searching. Got anything on that?

"Sal"
(KD6VKW)

1675. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 19:13:34 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iufth1$9bi$1@dont-email.me>
Source record: 4374

On 6/29/2011 11:04 AM, Cecil Moore wrote:
> On Jun 25, 5:25 pm, John S<soph...@invalid.org> wrote:
>> But, it does. First, it causes the 50 ohms line (looking into the 291.4
>> ohms line to see a match due to the reflection. Second, the
>> re-reflection from that discontinuity is half of what maintains the
>> circulating energy on the line. The other half is the discontinuity of
>> the non-virtual load.
>
> You are confusing reflection with wave cancellation (destructive
> interference). I suggest that you study the separate sections on
> reflections vs interference in "Optics", by Hecht. Nowhere does any
> optical textbook indicate that superposition and reflection are the
> same thing (and they are indeed NOT the same thing).

You always fall back on the optics thing, don't you?

1676. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 19:17:12 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iuftnr$9bi$2@dont-email.me>
Source record: 4376

On 6/26/2011 10:34 PM, Mike Coslo wrote:
> On 6/26/2011 2:56 PM, John S wrote:
>> On 6/26/2011 12:46 PM, Kickin' Ass and Takin' Names wrote:
>
>>> And some of us just throw up a piece of wire and are happy with it.
>>
>> And some of us strive for a higher education. To each his own.
>
> And we get that higher education in a netnews group? I enjoy this group,
> but it's the equivalent to getting marriage advice at a bar. Maybe good,
> but just as likely really bad.
>
> - 73 de Mike N3LI -

I'm sure the people who provide answers to questions here are happy to
read what you think of them.

John

1677. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 21:20:06 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <c03af457-2203-468f-9071-8aec5d9aae2d@glegroupsg2000goo.googlegroups.com>
Source record: 4378

On Sunday, 26 June 2011 08:44:15 UTC+10, John S wrote:

> Hi, Owen -
>
> Allow me to jump in here and ask: which antennas are less dependent on
> ground?
>
> John - KD5YI

Hi John,

Perhaps I might answer by nominating some that are more dependent on ground.

The classic case would be a monopole worked against real ground, meaning having one terminal of the feed line connected to the dirt in some way.

A centre fed dipole rigged very low to real ground is more depended on ground than one that is higher.

My experience is that if you don't have the time or resources to install a substantial ground system, avoid antennas that depend greatly on that ground system for performance. Driving a short conductive stake, or running a wire along the surface, or running a wire into a body of water does not make an effective ground system for these purposes.

I recently had QSO with a field station on 40m at about 500km distance. Initially he had a half wave dipole lying on the ground, and was somewhat surprised that I could work him with 100W from his tx. He raised the dipole to 5m (15') and we tried 50mW SSB. He reported that I was essentially noise free at that, but I could not reduce power any further.

We prove time and time again that anything "works", but an antenna less dependent on the ground usually gives more consistent performance.

Owen

1678. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 22:41:51 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d7622b32-f277-4696-a7c3-dc2b02d59b10@x16g2000yqg.googlegroups.com>
Source record: 4379

On Jun 24, 1:52 pm, Cecil Moore <w5...@hotmail.com> wrote:
> If the reflected wave is re-reflected, it must be by an impedance
> other than the virtual impedance generated by the reflected wave
> itself. If the reflected wave is being used to generate a virtual
> impedance, it cannot at the same time be being re-reflected.

I think i have finally seen the confusion point. you can not at the same time talk about reflected waves and re-reflected waves and also use s parameters or other steady state reflection parameters or impedances... this means you can not talk about individual reflections from the stub connection point without also analyzing the traveling wave inside the stub, nor can you track and sum up all the reflections using the steady state impedance of the stub as if it were a lumped value. to do so violates the conditions where the s parameters and reflection coefficients are valid, the sinusoidal steady state realm.

1679. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-29 23:52:57 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <iugdst$6th$1@dont-email.me>
Source record: 4380

On 6/29/2011 4:20 PM, Owen Duffy wrote:
> On Sunday, 26 June 2011 08:44:15 UTC+10, John S wrote:
>
>> Hi, Owen -
>>
>> Allow me to jump in here and ask: which antennas are less dependent on
>> ground?
>>
>> John - KD5YI
>
> Hi John,
>
> Perhaps I might answer by nominating some that are more dependent on ground.
>
> The classic case would be a monopole worked against real ground, meaning having one terminal of the feed line connected to the dirt in some way.
>
> A centre fed dipole rigged very low to real ground is more depended on ground than one that is higher.
>
> My experience is that if you don't have the time or resources to install a substantial ground system, avoid antennas that depend greatly on that ground system for performance. Driving a short conductive stake, or running a wire along the surface, or running a wire into a body of water does not make an effective ground system for these purposes.
>
> I recently had QSO with a field station on 40m at about 500km distance. Initially he had a half wave dipole lying on the ground, and was somewhat surprised that I could work him with 100W from his tx. He raised the dipole to 5m (15') and we tried 50mW SSB. He reported that I was essentially noise free at that, but I could not reduce power any further.
>
> We prove time and time again that anything "works", but an antenna less dependent on the ground usually gives more consistent performance.
>
> Owen

Thanks, Owen.

John

1680. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-30 01:33:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4e0bd255$0$79801$8046368a@newsreader.iphouse.net>
Source record: 4381

On 6/28/2011 9:59 PM, Richard Clark wrote:
> cups. Taking a bow. Grandiloquent sweeping gesture to the audience.)
>
> 73's
> Richard Clark, KB7QHC

Thanks for the new word. Never ran across grandiloquent before.

tom
K0TAR

1681. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-30 12:36:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <179e0dd1-3098-4e17-9dda-7ff6ce87a79e@x12g2000yql.googlegroups.com>
Source record: 4382

On Jun 25, 5:25 pm, John S <soph...@invalid.org> wrote:
> But, it does. First, it causes the 50 ohms line (looking into the 291.4
> ohms line to see a match due to the reflection. Second, the
> re-reflection from that discontinuity is half of what maintains the
> circulating energy on the line. The other half is the discontinuity of
> the non-virtual load.

John, EM wave reflection is what happens to a single wave. EM wave superposition/interference is what happens between two (or more) waves. They are not the same phenomenon and do NOT obey the same rules of physics. Wave cancellation between two waves is *NOT a reflection* but it does *redistribute* reflected energy back toward the load at the Z0-match point. The destructive interference energy toward the source is redistributed as constructive interference energy toward the load but one can tell from the resulting phase and magnitude that it was NOT a reflection.

A good reference on the differences between wave reflection and wave superposition/interference is "Optics", by Eugene Hecht. The international 4th edition is available in paperback for around $20 from Abebooks.com.
--
73, Cecil, w5dxp.com

1682. YAGICAD question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-30 18:15:34 UTC
From: "Helmut Wabnig"
Message-ID: <k5dp075i2mlhjcn30su4rdkli9re0lcft5@4ax.com>
Source record: 4383

Am trying to design a 3 element tape measure antenna for 2 meters
with a 10x10 mm aluminium boom. After calculating the dimensions
with Yagicad 6.1 the tapes get cut and mounted.

http://img837.imageshack.us/img837/8209/snc14096a.jpg
(Before cable and hairpin match)

The driven element sits on a slider which allows to adjust
for best F/B ratio over the working frequency span of the antenna.
Normally the F/B degrades quickly when tuning off center.

http://img90.imageshack.us/img90/7112/fbratio.jpg

With the driven element on a slider you can move the peak
to the desired frequency, within a certain range.
About 10 MHz span is possible with such a 2 meter antenna

Measuring with a scalar analyzer and tests with actual radio signals
reveal that YAGICAD does calculate too short elements.
Everything is a few MHz too high in frequency, the gain maximum,
the F/B optimum, the resonant frequency, on the antenna,
when built with the YAGICAD dimensions.

The only parameter I can vary in YAGICAD is the element diameter.
The tape measure is iron, 19 mm. Iron can be selected
in YAGICAD, but that only affects little.

I optimize the design for best F/B ratio, because that is what you
want for a direction finding antenna.

I have to add 4 cm to the passive elements and 8 cm to the driven
dipole to get a working antenna, having selected 0,02 m element
diameter in the YAGICAD program. Entering less diameter
worsens the situation.
The boom adds only 1 or 2 mm to the elements, but the final
dimension results are several centimeters off!
The SWR is excellent with the hairpin calculated by YAGICAD.
At least something that works.

Luckily I have a good test equipment and see live on the screen
what the antenna does when I change elements.
But that YAGICAD is a mysterium to me.
After so many revisions I would expect some more realistic results.

w.

1683. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-30 22:22:58 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <8144ba3e-5f0b-4c1a-b251-2b8dde3d6634@glegroupsg2000goo.googlegroups.com>
Source record: 4386

On Tuesday, 28 June 2011 11:21:50 UTC+10, Wayne wrote:
> I have seen two commercial antennas advertised that are each 43 feet tall,
> and have no traps/stubs, etc.
> There appears to be a 4:1 balun at the feedpoint. Mentioned, is the
> requirement to have a tuner at the driving end of the feedline, and max
> VSWRs in the 4:1 range.

Several manufacturers supplied and recommended a 4:1 voltage balun at the feed point of their 43' unloaded vertical. It would seem driven by one seller, and a mob of sheep following.

If you look on eHam at the evaluations of the configuration, you will find that most reviewers thought it a great antenna system.

I commented on that in some web articles and many postings in online forums over years. My thoughts in seeking an understanding of how it "works" are in the article at http://www.vk1od.net/balun/application/Z5.html .

I should note that after a particularly vigorous discussion in one forum a year of two back, one of the sellers changed his recommendation to an unun and advised existing owners how to modify their balun to an unun. The method was quite the same as I previously documented at http://vk1od.net/antenna/multibandunloadedvertical/ .

The whole saga reminds us that anything "works", and flexible sellers remain poised to supply to the current fashion.

Owen

1684. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-30 22:33:51 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <f5fcd372-1df4-4a8c-bc06-9145e8c293b8@h38g2000pro.googlegroups.com>
Source record: 4384

On Jun 28, 6:55 pm, NM5K <nooneh...@invalid.net> wrote:

>
> It's unlikely you will see this, but google groups has been
> down since the 25th. It seems to be allowing posts, but it's
> not showing any new posts since the 25th.
> That's why you are not seeing your posts.

Thanks.

Posts seem now to be showing in bursts, but few (?) close to real
time.
Time to spend money for a more dependable newsreader, I suppose.

1685. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-06-30 22:57:16 UTC
From: NM5K <noonehome@invalid.net>
Message-ID: <4E0CFF4C.7DC6@invalid.net>
Source record: 4385

Sal M. Onella wrote:
>
> On Jun 28, 6:55 pm, NM5K <nooneh...@invalid.net> wrote:
>
> >
> > It's unlikely you will see this, but google groups has been
> > down since the 25th. It seems to be allowing posts, but it's
> > not showing any new posts since the 25th.
> > That's why you are not seeing your posts.
>
> Thanks.
>
> Posts seem now to be showing in bursts, but few (?) close to real
> time.
> Time to spend money for a more dependable newsreader, I suppose.

I sort of expect they will get it straightened out before
too long. I think they are doing some massive changes. The
search engine, groups, the whole mess..
Supposably July 1 is when the new system is supposed to
be kicked in. Whether GG will be right by then, who knows..
I'm using eternal-september.org right now. It's pretty
good for a free news server.
But believe it or not, I actually prefer google groups.
Some people shake their heads when I say that, but screw
em if they can't take a joke.. :/
To me, the web based reader is faster and less cumbersome
than using the regular news readers.
Fer instance, on the regular reader I have to look at each
post individually. With GG I see all posts in a thread at
once. It's faster..
Also, if I start fresh on the news server, I have to log in
with my user name and password. And then I have to type in
the new groups I want to look at.. What a pain..
Where as GG, as my usual groups are saved with my "profile"
or whatever you want to call it.
I'll think I'll keep both going, but if they get GG back
in order, I'll likely revert back to it, and keep the
eternal-september.org as a backup.

1686. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-01 06:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1309500001@panix.com>
Source record: 4387
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

1687. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-01 12:56:24 UTC
From: W5XP <w5dxp@hotmail.com>
Message-ID: <9e96720f-035d-41f2-a0f4-b5fca944aaa0@gv8g2000vbb.googlegroups.com>
Source record: 4388

On Jun 29, 2:13 pm, John S <soph...@invalid.org> wrote:
> You always fall back on the optics thing, don't you?

That's because optical physicists seem to be the only technical people who understand interference effects. However, most of what one needs to understand about the subject is contained in my Worldradio energy article:

http://www.w5dxp.com/energy.htm
--
73, Cecil, w5dxp.com

1688. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-01 13:07:47 UTC
From: W5XP <w5dxp@hotmail.com>
Message-ID: <3b0956c4-4955-461d-a547-dd5b46fd8619@j25g2000vbr.googlegroups.com>
Source record: 4389

On Jun 29, 5:41 pm, K1TTT <k1...@arrl.net> wrote:
> I think i have finally seen the confusion point. you can not at the
> same time talk about reflected waves and re-reflected waves and also
> use s parameters or other steady state reflection parameters or
> impedances...

Someone said it a long time ago: You can't have your cake and eat it too.

One cannot be using the reflected wave to establish a dynamic virtual short while, at the same time, the virtual short is causing a dynamic re-reflection of the reflected wave.

The virtual impedance is (Vfor+Vref)/(Ifor+Iref) but if that is the impedance doing the re-reflection of that same Vref and Iref, then it cannot also be being used to establish the dynamic virtual impedance, i.e. if a virtual impedance is re-reflecting all of the reflected energy, it will necessarily disappear from existence because there is no longer a Vref and Iref to cause it to exist.
--
73, Cecil, w5dxp.com

1689. Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-01 14:26:50 UTC
From: ogrowup@webtv.net
Message-ID: <24105-4E0DD92A-1483@storefull-3172.bay.webtv.net>
Source record: 4390

Are there any advantages and/or disadvantages to having a dipole where
the legs are at a 90-degree angle instead of straight (i.e., one leg
oriented north-south; the other east/west)?

--
"The graveyards are full of indispensible men." -- Charles DeGaulle

1690. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-01 16:40:45 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <iuktahjds1@dont-email.me>
Source record: 4391

"Owen Duffy" wrote in message
news:8144ba3e-5f0b-4c1a-b251-2b8dde3d6634@glegroupsg2000goo.googlegroups.com...

On Tuesday, 28 June 2011 11:21:50 UTC+10, Wayne wrote:
> I have seen two commercial antennas advertised that are each 43 feet tall,
> and have no traps/stubs, etc.
> There appears to be a 4:1 balun at the feedpoint. Mentioned, is the
> requirement to have a tuner at the driving end of the feedline, and max
> VSWRs in the 4:1 range.

Several manufacturers supplied and recommended a 4:1 voltage balun at the
feed point of their 43' unloaded vertical. It would seem driven by one
seller, and a mob of sheep following.

If you look on eHam at the evaluations of the configuration, you will find
that most reviewers thought it a great antenna system.

I commented on that in some web articles and many postings in online forums
over years. My thoughts in seeking an understanding of how it "works" are in
the article at http://www.vk1od.net/balun/application/Z5.html .

I should note that after a particularly vigorous discussion in one forum a
year of two back, one of the sellers changed his recommendation to an unun
and advised existing owners how to modify their balun to an unun. The method
was quite the same as I previously documented at
http://vk1od.net/antenna/multibandunloadedvertical/ .

The whole saga reminds us that anything "works", and flexible sellers remain
poised to supply to the current fashion.

Owen
****
-
Thanks for the interesting links, Owen. The 4:1 balun did look unusual to
me, and EZNEC didn't help reveal the magic involved. As I mentioned before,
I have challenging antenna restrictions (not restrictive covenants), and
will look some more at a shorter version for higher frequencies.
Wayne
W5GIE

1691. Re: 43 foot verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-01 21:08:23 UTC
From: Owen Duffy <owen@vk1od.net>
Message-ID: <iuld10dl1@dont-email.me>
Source record: 4392

On 02/07/2011 2:40, Wayne wrote:
...
> -
> Thanks for the interesting links, Owen. The 4:1 balun did look unusual
> to me, and EZNEC didn't help reveal the magic involved. As I mentioned

It is that it is a voltage balun that is the main issue. The transformation ratio is questionable, but not nearly as clear an issue as being a voltage balun between a coaxial feedline and ground mounted vertical where one terminal of each should be close to the same (~ground) potential.

There is often good argument for a current choke or current balun feeding such an antenna. If there is good argument for a 4:1 transformation ratio, then there is good argument for a 4:1 current balun. I suspect that the changed recommendation to a 4:1 unun is because that can be achieved with a simple reconfiguration of the existing component, a low cost customer support solution.

Seller's are caught between supplying product for which there is demand by the ham buyers, and one that can be explained rationally. One balun seller explained that ham buyers want 4:1 voltage baluns for multiband dipoles because when they replace them with 1:1 current baluns, they have problems with flashovers, and they can't match up on some bands. It is true that voltage baluns can facilitate matching on some extreme loads, at the expense of system efficiency, similar effect to some extent to the subject case.

NEC2 does not model conductors passing into the ground well, so you are unlikely to build a good model.

I toyed with creating a model in NEC4, but figured that those who wouldn't see the folly of the AS/Z5 balun idea would not be informed by NEC models anyway.

> before, I have challenging antenna restrictions (not restrictive
> covenants), and will look some more at a shorter version for higher
> frequencies.

Just because the 4:1 voltage balun seems irrational, that doesn't dismiss the unloaded vertical, nor benefit of a current balun.

But, if you are primarily interested in higher bands, a shorter vertical with elevated radials will likely be more efficient and less a cloud warmer pattern wise.

Owen

1692. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 03:09:19 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <05c3e19d-125f-462c-8be9-2f4794e86ec7@d26g2000prn.googlegroups.com>
Source record: 4393

On Jul 1, 7:26 am, ogro...@webtv.net (Padraigh ProAmerica) wrote:
> Are there any advantages and/or disadvantages to having a dipole where
> the legs are at a 90-degree angle instead of straight (i.e., one leg
> oriented north-south; the other east/west)?
>
> --
> "The graveyards are full of indispensible men." -- Charles DeGaulle

I am a newbie in EZNEC (eznec.com) antenna modeling, but I tried it
with a known-functional arrangement, a 20m dipole at 30 feet.

When I rotated one leg as you described, the feed point impedance came
down from 75 ohms, the resonant freq went up slightly out-of-band and
the pattern was nearly circular.

I dropped the antenna to 25 feet and the resonant freq came down into
the band and the impedance hit 50 ohms almost on the nose.

For all practical purposes, your change is close to an omni. One
issue: It has a fairly high take-off angle at 48 degrees. Some
people do not worry about take-off angle, the elevation angle of
maximum radiation. This is because the differences are only a few
dB. It takes 6 dB to make a one s-unit change, so you're not totally
ruining your chances for a QSO if you're down a few.

"Sal"
stretching my limits

1693. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 05:33:19 UTC
From: nm5k@wt.net
Message-ID: <ea1204d8-b9f8-4cda-b55d-73e885509d72@glegroupsg2000goo.googlegroups.com>
Source record: 4394

I've runs lots of dipoles set up like that.
Usually because of the location of the end
supports. They generally work fine, and I imagine
the model is accurate enough for gov work.
It's best not to use angles less than 90 degrees
apart though. As you get the legs closer together
like a V beam you should start to see some cancellation
and a reduction in performance. But even those will
work well enough to operate and probably beat some
lesser antennas. 90 degrees apart works just fine.
It alters the pattern, but it's still efficient
assuming it's fed properly. I always prefer coax
for single band dipoles or dipoles fed in parallel.
No matching required, and you will be hard pressed
to beat the efficiency on most any HF band using
normal line lengths.

1694. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 13:29:46 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <80c208e4-8b3e-4b80-a4b6-bce0741e2e5a@n5g2000yqh.googlegroups.com>
Source record: 4395

On Jul 1, 7:56 am, W5XP <w5...@hotmail.com> wrote:

My apologies to JAMES W GRIFFITH, W5XP. I apparently made a typo and
left out a 'D' from my call.
--
73, Cecil, w5dxp.com

1695. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 16:30:20 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <iunh31lme1@dont-email.me>
Source record: 4396

"W5DXP" wrote in message
news:80c208e4-8b3e-4b80-a4b6-bce0741e2e5a@n5g2000yqh.googlegroups.com...

On Jul 1, 7:56 am, W5XP <w5...@hotmail.com> wrote:

My apologies to JAMES W GRIFFITH, W5XP. I apparently made a typo and
left out a 'D' from my call.
--
73, Cecil, w5dxp.com
****
-
LOL....I saw the callsign, knew something was wrong, but didn't know what.
.....that happens at my age
--Wayne
W5GIE (exiled to W6)

1696. Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 22:10:49 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <e820bd25-b016-45f3-9511-859b588fed9b@n5g2000yqh.googlegroups.com>
Source record: 4397

I've been enjoying several Lazy H antenna I built for 10 meters that are being fed with 450 ohm ladder line back to the tuner. They antennas are performing well. The problem is the external baluns I am using back at the tuner heat up even at 100 watts. These are suppose to be 1.5 kw baluns, but they can't handle the impedance mismatch for full legal limit. I have commercial 1:1 voltage baluns and 4:1 voltage baluns.
I decided to build an air core balun in hopes of saving myself the expense of buying several torrid cores. The problem is none of the plans listed in the Bill Orr handbook or that I have found on the Internet actually work. On my one commercial 4:1 balun if I place a 200 ohms resistor across the leads of the balun I get an SWR reading of about 1.1:1. When I build the air core balun listed in the William Orr handbook I get a 2.5:1 SWR.
Hmm..So I decided to try some 4:1 air core balun designs off of the Internet as well. I found the web page below;

"A 4:1 Air-wound Balun"
http://combotec.com/projects/balun14/balun14.html

I built the balun exactly like the web page described. It does not work. 2.5+ SWR on 10 meters with a 200 ohm resistor plugged up to the terminals. The same 200 ohm resistor shows close to a 1.1 on a ferrite 4:1 balun.

So, the Bill Orr 4:1 air core balun listed in his handbook does not work on 10 meters. Neither does his 1:1 air core balun when tested on 10 meters with a 50 ohm resistor. The 4:1 air core balun listed on the web page above does not work either. I'm getting tired of building air core baluns that don't work.

So....,does anyone have any plans for a 4:1 air core balun for feeding 450 ladder from a tuner that you have actually tested and used that and it shows close to a 1.1:a SWR when presented with a 200 ohm load?

By the way, of the 4 or 5 1:1 commercial baluns I purchased back in the 1990s only one of them actually shows a 1.1:SWR when presented with a 50 ohm load. The others show between a 1.7:1 and 2.1:1 SWR on 10 meters, and that is among several baluns that were all the same model from the same manufacturer. I'd post the brand name, but the paper brand labels wore off years ago. I can tell you it has little brass machined screws and brass holders on the sides of the balun and not the piece of copper wire coming out to the eye hooks. They are enclosed inside the typical white PVC pipe with caps on each end and a coax connector at the bottom.

Michael Rawls
KS4HY

1697. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 22:13:27 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <17c202be-426b-4727-937d-50350afb33ac@c29g2000yqd.googlegroups.com>
Source record: 4398

On Jul 2, 6:10 pm, Michael <goo...@shadowstorm.com> wrote:
I almost forgot ..They need to be air core baluns that can easily
handle legal limit.

Thank you.

Michael Rawls
KS4HY

1698. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 22:24:42 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F175580E6C99nonenowhere@88.198.244.100>
Source record: 4399

Michael <google@shadowstorm.com> wrote in news:e820bd25-b016-45f3-9511-859b588fed9b@n5g2000yqh.googlegroups.com:

>
> I've been enjoying several Lazy H antenna I built for 10 meters that
> are being fed with 450 ohm ladder line back to the tuner. They
> antennas are performing well. The problem is the external baluns I am
> using back at the tuner heat up even at 100 watts. These are suppose
> to be 1.5 kw baluns, but they can't handle the impedance mismatch for
> full legal limit. I have commercial 1:1 voltage baluns and 4:1
> voltage baluns.

Therein lies a possible explanation of your problems.

If you view the 4:1 voltage balun as device that can transform any load from say 5+j0 to 5000+j0 (just staying on the X=0 axis) at 1kW (for round numbers), you expected it to handle 15A, and withstand 3000Vpk, over more than a decade freqency range, and to have a maximum loss of say 20W (which is about enough to heat the core in most enclosures to Curie point) or 98% efficient.... and then give a near ideal impedance transformation.

Well, it just doesn't happen that easily... as you now know.

Owen

1699. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 23:01:14 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <7c2889df-092d-4471-bfb2-6db35c4a5dd9@u2g2000yqb.googlegroups.com>
Source record: 4400

On Jul 2, 6:24 pm, Owen Duffy <n...@no.where> wrote:
> Michael <goo...@shadowstorm.com> wrote in news:e820bd25-b016-45f3-9511-
> 859b588fe...@n5g2000yqh.googlegroups.com:
>
>
>
> > I've been enjoying several Lazy H antenna I built for 10 meters that
> > are being fed with 450 ohm ladder line back to the tuner. They
> > antennas are performing well. The problem is the external baluns I am
> > using back at the tuner heat up even at 100 watts. These are suppose
> > to be 1.5 kw baluns, but they can't handle the impedance mismatch for
> > full legal limit. I have commercial 1:1 voltage baluns and 4:1
> > voltage baluns.
>
> Therein lies a possible explanation of your problems.
>
> If you view the 4:1 voltage balun as device that can transform any load
> from say 5+j0 to 5000+j0 (just staying on the X=0 axis) at 1kW (for
> round numbers), you expected it to handle 15A, and withstand 3000Vpk,
> over more than a decade freqency range, and to have a maximum loss of
> say 20W (which is about enough to heat the core in most enclosures to
> Curie point) or 98% efficient.... and then give a near ideal impedance
> transformation.
>
> Well, it just doesn't happen that easily... as you now know.
>
> Owen

Hi Owen and thanks for responding,

So how do I go about feeding a Lazy H with ladder line back to the
tuner for high power without over heating the balun? The tuner is a
Dentron MT-3000a. The built in balun is not balanced at all at 10
meters, and I had to bypass it to get the Lazy H's to work properly.
Another ham found the same problem with his Dentron MT-3000a when
using ladder line on 10 meters. See K8JS's post on eham.net below for
his experience with the Dentron MT-3000a internal balun on 10 meters.
The Lazy H antennas work beautifully at 100 watts, but any more than
that and the external baluns begin changing value as they heat up. I
have seen a Hy-Power 4:1 balun rated at 5 KW that claims it can handle
it, and Palomar has a kit claiming to be able to handle it as well.
If possible I would like to build it myself. I get alot more bang out
of a good signal report if it is on equipment I restored/repaired, an
antenna I built, etc.
I also edthe CQ balun/unun book from hamradio.com. Hopefully it will

shed some light on the subject

Michael Rawls
KS4HY

K8JS 's post on the Eham.net review of the Dentron MT-3000a tuner...
> ====================================
> K8JS Rating: 3/5 Feb 22, 2004 00:59 Send this review to a friend
> Basically Is OK, but not the best Tuner Out There Time owned: more
> than 12 months

> ...<snip>...

> I also ran balanced feedline antennas at that time, and discovered
> that the built-in balun was badly UN-balanced at it's "balanced" port
> for 10 thru 20 meters.
> To help remedy that problem I had to replace it with a physically
> larger, and much superior "Super Balun" from Palomar that barely
> physically fit within the tuner's chassis.
> So - with correcting the coil's grounded end making a better contact
> to the chassis, replacing the unit's inferior balun, and gingerly
> operating those flakey rectangular switched, I was able to continue to
> use that otherwise very nice tuner for several more years. ---John,
> K8JS

> ==================================

1700. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 23:05:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F175C5CD1540nonenowhere@88.198.244.100>
Source record: 4251

Michael <google@shadowstorm.com> wrote in
news:7c2889df-092d-4471-bfb2-6db35c4a5dd9@u2g2000yqb.googlegroups.com:
...
> So how do I go about feeding a Lazy H with ladder line back to the
> tuner for high power without over heating the balun? The tuner is a
> Dentron MT-3000a. The built in balun is not balanced at all at 10

I will respond in a couple of hours, but in the meantime, please clarify
that everything between the ATU and LazyH is up for consideration.

What impedance line are you using?

Do you feed the antenna midway between the elements of at one element
(branch or distributed feed)? What do you think the feed point impedance
is?

What band(s)?

Owen

1701. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-02 23:24:53 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <971c01a0-5dba-4170-9799-8e19df88855f@m22g2000yqh.googlegroups.com>
Source record: 4252

On Jul 2, 7:05 pm, Owen Duffy <n...@no.where> wrote:
> Michael <goo...@shadowstorm.com> wrote
innews:7c2889df-092d-4471-bfb2-6db35c4a5dd9@u2g2000yqb.googlegroups.com:
> ...
>
> > So how do I go about feeding a Lazy H with ladder line back to the
> > tuner for high power without over heating the balun? The tuner is a
> > Dentron MT-3000a. The built in balun is not balanced at all at 10
>
> I will respond in a couple of hours, but in the meantime, please clarify
> that everything between the ATU and LazyH is up for consideration.
>
> What impedance line are you using?
>
> Do you feed the antenna midway between the elements of at one element
> (branch or distributed feed)? What do you think the feed point impedance
> is?
>
> What band(s)?
>
> Owen

I am using 450 ladder line. The Lazy H is center fed with 1/2 wave
spacing between the top and bottom elements and the elements are 1/2
wave elements. 450 ladder line is connecting the top and bottom
elements. I am not using the expanded Lazy H version. This is the
classic center fed Lazy H design as shown in the ARRL antenna
handbook. I only intend to use the antenna on 10 meters. I don't
know what the exact impedance is (sorry). The Lazy antenna is about
50 feet off the ground at the top wire. The amplifier I want to use
with the Lazy H is a Drake L4B with two Eimac 3-500z tubes.

Michael Rawls
KS4HY

1702. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 00:38:28 UTC
From: tom <news4792@taring.org>
Message-ID: <4e0fba02$0$74947$8046368a@newsreader.iphouse.net>
Source record: 4253

On 7/1/2011 10:09 PM, Sal M. Onella wrote:

> For all practical purposes, your change is close to an omni. One
> issue: It has a fairly high take-off angle at 48 degrees. Some
> people do not worry about take-off angle, the elevation angle of
> maximum radiation. This is because the differences are only a few
> dB. It takes 6 dB to make a one s-unit change, so you're not totally
> ruining your chances for a QSO if you're down a few.
>
> "Sal"
> stretching my limits

Sal

I can't resist.

Ever been in a pileup?

tom
K0TAR

1703. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 00:39:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F176C458E6FFnonenowhere@88.198.244.100>
Source record: 4254

Michael <google@shadowstorm.com> wrote in
news:971c01a0-5dba-4170-9799-8e19df88855f@m22g2000yqh.googlegroups.com:

> On Jul 2, 7:05 pm, Owen Duffy <n...@no.where> wrote:
>> Michael <goo...@shadowstorm.com> wrote
>> innews:7c2889df-092d-4471-bfb2-6db
> 35c4a5dd9@u2g2000yqb.googlegroups.com:
>> ...
>>
>> > So how do I go about feeding a Lazy H with ladder line back to
>> > the tuner for high power without over heating the balun? The tuner
>> > is a Dentron MT-3000a. The built in balun is not balanced at all
>> > at 10
>>
>> I will respond in a couple of hours, but in the meantime, please
>> clarify that everything between the ATU and LazyH is up for
>> consideration.
>>
>> What impedance line are you using?
>>
>> Do you feed the antenna midway between the elements of at one element
>> (branch or distributed feed)? What do you think the feed point
>> impedance is?
>>
>> What band(s)?
>>
>> Owen
>
> I am using 450 ladder line. The Lazy H is center fed with 1/2 wave
> spacing between the top and bottom elements and the elements are 1/2
> wave elements. 450 ladder line is connecting the top and bottom
> elements. I am not using the expanded Lazy H version. This is the
> classic center fed Lazy H design as shown in the ARRL antenna
> handbook. I only intend to use the antenna on 10 meters. I don't
> know what the exact impedance is (sorry). The Lazy antenna is about
> 50 feet off the ground at the top wire. The amplifier I want to use
> with the Lazy H is a Drake L4B with two Eimac 3-500z tubes.

Ok, if we define the feed point to be half way between the dipoles, you
ought expect that the feed point impedance is relatively low, some where
of the order of 50 ohms, give or take some reactance and it is a fairly
balanced / symmetric load. Note that the feed system to each dipole is a
tuned length of transmission line, that makes this a narrowband feed
system.

So, your challenge is to deliver the transmitter a nominal 50+j0 load.

Re the ATU's integral ATU, always regard them as likely to be unsuitable.

Let's regard that, integral balun aside, your ATU is probably capable of matching a fairly wide range of impedances at 10m with reasonable efficiency.

If you objective in using a balun is to minimise feedline direct contribution to radiation, your objective is to try to force equal but opposite currents in each conductor.

An ideal voltage balun will approach that objective ONLY with a perfectly symmetric load. If you think you have a perfectly symmetric load, it is probably because you haven't measured it.

An ideal current balun will approach the curent balance objective irrespective of load symmetry, so it is a better choice for your application.

Why do you need a 4:1 transformation? Depending on your feedline length, the impedance presented to the ATU may be as low as somewhere round 50 ohms, and perhaps as high as several thousand ohms. It might seems good to transform several thousand ohms by a factor of 4... but transforming the lower impedances by a factor of 4 exacerbates ATU losses.

Since wavelength is short, I would be inclined to try to use a feedline length of an integral number of half waves, and an effective 1:1 current balun at the ATU. This minimises working voltages within the balun and ATU (reducing risk of flashovers), without driving high losses in the ATU are very low impedances.

If you think about your own requirements, and finding a solution that fits, you will do better than Googling up HamUniverse articles and the like.

Owen

1704. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 02:04:05 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <ec0b161d-dfb9-4385-b5b2-442cb47ce757@g12g2000yqd.googlegroups.com>
Source record: 4255

On Jul 2, 8:39 pm, Owen Duffy <n...@no.where> wrote:
> Michael <goo...@shadowstorm.com> wrote
innews:971c01a0-5dba-4170-9799-8e19df88855f@m22g2000yqh.googlegroups.com:

> Since wavelength is short, I would be inclined to try to use a feedline
> length of an integral number of half waves, and an effective 1:1 current
> balun at the ATU. This minimises working voltages within the balun and
> ATU (reducing risk of flashovers), without driving high losses in the
> ATU are very low impedances.
>
> If you think about your own requirements, and finding a solution that
> fits, you will do better than Googling up HamUniverse articles and the
> like.
>
> Owen

When I calculate the feedline length am I correct in assuming that I
need to take in to account the velocity factor of the 460 ohm ladder
line?

Michael Rawls
KS4HY

1705. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 02:14:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F177C797BA43nonenowhere@88.198.244.100>
Source record: 4256

Michael <google@shadowstorm.com> wrote in
news:ec0b161d-dfb9-4385-b5b2-442cb47ce757@g12g2000yqd.googlegroups.com:

...
>
> When I calculate the feedline length am I correct in assuming that I
> need to take in to account the velocity factor of the 460 ohm ladder
> line?

Yes Michael, it is the electrical length that is important.

You can use TLLC http://www.vk1od.net/calc/tl/tllc.php to calculate the approximate length of Wireman's ladder line to give you some idea. If you specify the length in wavelengths, the results will show you the physical length in metres. Divide that by 0.3048 to get feet.

The length is not terribly critical, you are just trying to feed the thing near a current maximum rather than a voltage maximum.

If your balun requirement becomes an effective current balun that need only suite 10m, then a number of options spring up, but a ferrite cored balun similar to a general purpose HF balun, but with slightly less turns is likely to give superior performance for the high end of HF.

If you want to read more on the reasoning behind my recommnedations, I can give you some links.

Owen

1706. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 02:24:26 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <62942abb-62c8-497d-9831-46fa1a11df83@q29g2000prj.googlegroups.com>
Source record: 4257

On Jul 2, 5:38 pm, tom <news4...@taring.org> wrote:
> On 7/1/2011 10:09 PM, Sal M. Onella wrote:
>
> > For all practical purposes, your change is close to an omni. One
> > issue: It has a fairly high take-off angle at 48 degrees. Some
> > people do not worry about take-off angle, the elevation angle of
> > maximum radiation. This is because the differences are only a few
> > dB. It takes 6 dB to make a one s-unit change, so you're not totally
> > ruining your chances for a QSO if you're down a few.
>
> > "Sal"
> > stretching my limits
>
> Sal
>
> I can't resist.
>
> Ever been in a pileup?
>
> tom
> K0TAR

Why, yes. I usually get crushed. I have occasionally been lucky.

Do tell why you ask. Dare I guess it has something to do with an
ignorant comment or two I've (probably) made about antennas and/or
takeoff angle? ;-)

I did mean "down a few dB," by the way, not "down a few s-units."

http://www.eham.net/articles/23758 is interesting.

"Sal"

1707. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 03:06:07 UTC
From: tom <news4792@taring.org>
Message-ID: <4e0fdc9d$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4258

On 7/2/2011 9:24 PM, Sal M. Onella wrote:
>
> Why, yes. I usually get crushed. I have occasionally been lucky.
>
> Do tell why you ask. Dare I guess it has something to do with an
> ignorant comment or two I've (probably) made about antennas and/or
> takeoff angle? ;-)
>
> I did mean "down a few dB," by the way, not "down a few s-units."
>
> http://www.eham.net/articles/23758 is interesting.
>
> "Sal"

I contest occasionally. Mostly on 6m and usually as part of a team
doing the ARRL QSO parties and the similar contests from other sources.

It's really fun because of my center of the continent position, one hop
from almost everywhere.

This year's field day was a ball. I did over 200 Qs on 6m in 8 hours
with 80 watts and 8dBd at 25 feet. 55% of the contacts at a 4A contest
site at the time 6m finally collapsed (around 10PM local).

We had to tear down at 6:30 AM due to thunderstorms.

tom
K0TAR

1708. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 03:07:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4e0fdce6$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4259

On 7/2/2011 9:24 PM, Sal M. Onella wrote:
>> K0TAR
>
> Why, yes. I usually get crushed. I have occasionally been lucky.
>
> Do tell why you ask. Dare I guess it has something to do with an
> ignorant comment or two I've (probably) made about antennas and/or
> takeoff angle? ;-)
>
> I did mean "down a few dB," by the way, not "down a few s-units."
>
> http://www.eham.net/articles/23758 is interesting.
>
> "Sal"

Still, couldn't help but ask. ;)

tom
K0TAR

1709. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 03:53:39 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <f86a0b2d-7503-49f1-b42f-c05e99a418ee@q12g2000prb.googlegroups.com>
Source record: 4260

On Jul 2, 8:07 pm, tom <news4...@taring.org> wrote:
> On 7/2/2011 9:24 PM, Sal M. Onella wrote:
>
> >> K0TAR
>
> > Why, yes. I usually get crushed.   I have occasionally been lucky.
>
> > Do tell why you ask. Dare I guess it has something to do with an
> > ignorant comment or two I've (probably) made about antennas and/or
> > takeoff angle? ;-)
>
> > I did mean "down a few dB," by the way, not "down a few s-units."
>
> >http://www.eham.net/articles/23758is interesting.
>
> > "Sal"
>
> Still, couldn't help but ask. ;)
>
> tom
> K0TAR

No harm, no foul.

"Sal"
(KD6VKW)

1710. Re: Dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 18:26:32 UTC
From: ogrowup@webtv.net
Message-ID: <24105-4E10B458-2711@storefull-3172.bay.webtv.net>
Source record: 4261

The reason I'm asking is that 'm considering putting up a 10 dipole in a portable location.

My first week with my HTX-100 mny years ago was a blast, and I've enjoyed operating ever since. Most frustration: Hearing a French Polyneasia at 10 over S9 and being unable to get through due tyo a couple of hundred Califonians (onw skip zone closed) with beam antennas and kilowatt amplifies. 25W into a dipole just couldn't cut the mustard.

--
"The graveyards are full of indispensible men." -- Charles DeGaulle

1711. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 20:50:47 UTC
From: Sal <sobars@aol.com>
Message-ID: <iuqknk$2id$1@dont-email.me>
Source record: 4262

"NM5K" <noonehome@invalid.net> wrote in message
news:4E0CFF4C.7DC6@invalid.net...

> snip >

> I'm using eternal-september.org right now. It's pretty
> good for a free news server.
> But believe it or not, I actually prefer google groups.
> Some people shake their heads when I say that, but screw
> em if they can't take a joke.. :/

< snip >

> Also, if I start fresh on the news server, I have to log in
> with my user name and password.

< snip >

> I'll think I'll keep both going, but if they get GG back
> in order, I'll likely revert back to it, and keep the
> eternal-september.org as a backup.

Good news.

I tried eternal september.org on Win XP in my shack
and it works. This response is through
them using the Outlook Express client, which I
was using before my ISP shut off its NG server.
Good tip. Thanks.

I notice the spam distractions are absent. Good.

Next trick, getting it to work on the iMac, for which I
do not currently have a newsreader. (Betas of the
next Apple OS are said to have major enhancements
to Apple Mail. Fingers crossed for that to include
a newsreader.)

Regarding your login hassle, it is avoidable. My
news client does it for me automatically and
displays my subscribed groups as folders.

True, Outlook Express is bad, but not ALL bad ;-)

"Sal"
.

1712. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 21:13:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F18497B9A899nonenowhere@88.198.244.100>
Source record: 4263

"Sal" <sobars@aol.com> wrote in news:iuqknk$2id$1@dont-email.me:
...
> I tried eternal september.org on Win XP in my shack
> and it works. This response is through

I also tried september.org using the XNews client which offers much richer filtering than you get through most newsreaders... and doesn't have the bottlenecks and stalls that Google Groups has, with or without its new interface.

Owen

1713. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-03 22:50:49 UTC
From: me9@privacy.net
Message-ID: <51ED37BE8B%brian13434@lycos.co.uk>
Source record: 4264

On 2 Jul,
Michael <google@shadowstorm.com> wrote:

> So....,does anyone have any plans for a 4:1 air core balun for feeding
> 450 ladder from a tuner that you have actually tested and used that
> and it shows close to a 1.1:a SWR when presented with a 200 ohm load?
>
Why not just use a(n electrical) half wave loop of coax if you are only using
it on 10metres? Or even just a Pawsey stub for a balun and match elsewhere.
You can do a lot of (single band) matching with just a quarter wave of open
wire line with shorts/open circuits and taps.

--
BD
Change lycos to yahoo to reply

1714. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-04 01:26:28 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <75-dnYWljvpai4zTnZ2dnUVZ_qmdnZ2d@bright.net>
Source record: 4265

Dear Group: Very good observation from Owen - as always.

Time for an story, which I hope illustrates several things:
Back over 50 years ago, my great pal at The University (if you are from this part of the Midwest you know exactly what I am indicating) W8BZB had a small, English car. This was only possible for an undergraduate because he lived in town. He installed a little 10 meter AM rig in the car that used tubes and a motor-generator set to get high voltage. Worked into Europe like Gangbusters. One day we got to examining the rig and I noted that the tubes all had 12 volt filaments and the generator was for 12 volts too. His car had a 6 volt electrical system. Anything can work.

Thus ends the lessor about the first rule of HF antennas. 73, Mac N8TT

P.S. The first rule of three-phase motors is never to tighten their couplings until you have verified direction of rotation.

"Owen Duffy" wrote in message
news:c03af457-2203-468f-9071-8aec5d9aae2d@glegroupsg2000goo.googlegroups.com...

On Sunday, 26 June 2011 08:44:15 UTC+10, John S wrote:

> Hi, Owen -
>
> Allow me to jump in here and ask: which antennas are less dependent on
> ground?
>
> John - KD5YI

Hi John,

Perhaps I might answer by nominating some that are more dependent on ground.

The classic case would be a monopole worked against real ground, meaning having one terminal of the feed line connected to the dirt in some way.

A centre fed dipole rigged very low to real ground is more depended on ground than one that is higher.

My experience is that if you don't have the time or resources to install a substantial ground system, avoid antennas that depend greatly on that ground system for performance. Driving a short conductive stake, or running a wire along the surface, or running a wire into a body of water does not make an effective ground system for these purposes.

I recently had QSO with a field station on 40m at about 500km distance. Initially he had a half wave dipole lying on the ground, and was somewhat surprised that I could work him with 100W from his tx. He raised the dipole

to 5m (15') and we tried 50mW SSB. He reported that I was essentially noise free at that, but I could not reduce power any further.

We prove time and time again that anything "works", but an antenna less dependent on the ground usually gives more consistent performance.

Owen

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

1715. OT: Mac Newsreaders (Was: 20m FD Dipole)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-04 02:46:23 UTC
From: David Ryeburn <david_ryeburn@telus.netz>
Message-ID: <david_ryeburn-6739CE.19462303072011@news.eternal-september.org>
Source record: 4266

In article <iuqknk$2id$1@dont-email.me>, "Sal" <sobars@aol.com> wrote:

... (snip) ...

> I tried eternal september.org on Win XP in my shack
> and it works. This response is through
> them using the Outlook Express client, which I
> was using before my ISP shut off its NG server.
> Good tip. Thanks.

I've been using Eternal September for about a year, ever since Telus, our local telephone company from which I have ADSL connection to the Internet, dropped Usenet. Like Macs and Subarus, Eternal September just works.

> I notice the spam distractions are absent. Good.

Their spam filtration is excellent. But see below.

> Next trick, getting it to work on the iMac, for which I
> do not currently have a newsreader.

Get MT-NewsWatcher 3.5.3b3. Ignore the beta designation. It too just works. It's Universal, so it worked on my wife's old PPC 2005 iMac and my old PPC 2001 Mac tower both running Mac OS 10.4 (Tiger), it works on our 2007 MacBook laptop running Mac OS 10.5 (Leopard), and it works on my newer 2010 Intel iMac running Mac OS 10.6 (Snow Leopard). There is no reason to think it won't work fine under Mac OS 10.7 (Lion) since it does not rely on PPC code and thus won't need Rosetta, which will be missing in 10.7.

It has excellent filtration capability, though with Eternal September you will have little need for it. I mainly use it to avoid having to look at the postings of a few kooks on this newsgroup.

It automatically connects to all your selected newsgroups when you fire it up.

It's a descendant of the original NewsWatcher program, which came from John Norstad, who wrote the legendary Disinfectant program, so valuable in the days before Macs started using Unix labelled as OS X. You can get MT-NewsWatcher any number of places, the easiest being at MacUpdate. It's donationware, and well worth a modest donation.

David, ex-W8EZE

--
David Ryeburn

david_ryeburn@telus.netz
To send e-mail, change "netz" to "net"

1716. Re: 20m FD Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 00:47:20 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iutmuk$r41u$1@tr22n12.aset.psu.edu>
Source record: 4267

On 6/29/2011 3:17 PM, John S wrote:

> I'm sure the people who provide answers to questions here are happy to
> read what you think of them.

Then again, I'm not saying which is which.

It's not hard to tell though. Good advice tends to have the ring of truth to it. It's something you can reference, can duplicate, and at some point makes sense.

The other sort might be mystery physics, like little particles that jump off your antenna to another, the discarding of everything past Volta, or magical 3 foot antennas that work better than anything else.

Then again, I guess I just did say which is which.

- 73 de Mike N3LI -

1717. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 01:04:15 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iutnua$r420$1@tr22n12.aset.psu.edu>
Source record: 4268

On 6/28/2011 11:38 AM, Cecil Moore wrote:
> On Jun 24, 7:17 pm, Mike Coslo<m...@psu.edu> wrote:
>> Okay, Cecil - now work phlogiston theory into this, and I'll buy you a beer.
>
> Exactly what is wrong with the concept of a "quantum aether"?

So is this like the aether that acts as a transport medium, or is it like quanta, that pop into and out of existence?

And that's where I have the issue. Use of the two terms like that is confusing. I find that some like to invoke the term as some sort of vindication of previous ideas, some just invoke a superficial resemblance. I remember when I first learned of quantum soup, I immediately thought of aether, but after ten seconds or so, I figured it was a very superficial resemblance only.

- 73 de Mike N3LI -

1718. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 01:20:03 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <iutorv$ng7k$1@tr22n12.aset.psu.edu>
Source record: 4269

On 6/28/2011 2:16 PM, Szczepan Bialek wrote:

> And what about of Dirac see: "The Dirac sea is a theoretical model of the
> vacuum as an infinite sea of particles with negative energy".

It's still not aether, it's an awkward prediction of infinite energy.

As incredibly cool as I think that would be, I suspect that we're going
to find that there is an equal and opposite effect going on.

If it's real, then Arthur C Clark predicted not only a whole lot of
energy, but a heat crisis to boot. Know how that would happen?

- 73 de Mike N3LI -

1719. Why do balun builders always use "enameled" wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 11:15:05 UTC
From: Michael <google@shadowstorm.com>
Message-ID: <b0e34c58-9da5-4520-8433-35036063866b@x10g2000vbl.googlegroups.com>
Source record: 4270

Why do balun builders always use "enameled" wire? Won't regular
electrical insulated copper wire like they sell at Lowes or Home Depot
work? Since copper is copper what is the benefit of enameled wire
over other types of insulated wire? Also is there a benefit of using
solid copper wire over stranded copper wire to build a balun?

Michael Rawls
KS4HY

1720. Re: Why do balun builders always use "enameled" wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 14:09:16 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <iuv5ue$c85o$1@tr22n12.aset.psu.edu>
Source record: 4271

On 7/5/2011 7:15 AM, Michael wrote:
>
>
> Why do balun builders always use "enameled" wire? Won't regular
> electrical insulated copper wire like they sell at Lowes or Home Depot
> work? Since copper is copper what is the benefit of enameled wire
> over other types of insulated wire? Also is there a benefit of using
> solid copper wire over stranded copper wire to build a balun?
>
> Michael Rawls
> KS4HY

Because the windings on a balun is not just turns on a core. They are transmission lines of a specific impedance. Wires of a diameter must be a certain distance apart to make a line of of the desired impedance. If the line is supposed to be 50 Ohms they need to be close together, too close for the thick insulation on house wire. Stranded wire is harder to wind on a ferrite core and maintain the spacing that is needed to make a good balun. Just remember that baluns are not transformers in the classic meaning of the term. They are made of sections of transmission lines. For example a 4 to one balun is made of 2 100 Ohm lines that are connected in parallel on one end, 50 Ohms side and in series on the other end for the 200 Ohm side. The common mode impedance keeps one end from seeing the other at RF frequencies. You can not see this with a Ohm meter!

John W3JXP

1721. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 17:55:07 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <697e80b9-e374-4852-9f6a-a8226bc8a3ba@g12g2000yqd.googlegroups.com>
Source record: 4272

On Jul 4, 8:04 pm, Mike Coslo <m...@psu.edu> wrote:
> So is this like the aether that acts as a transport medium, or is it
> like quanta, that pop into and out of existence?

Change the "or" to "and" and you've got it. It is quanta that pop into and out of existence that acts as a transport medium for EM waves. EM waves cannot propagate without "it" as a medium. That's why EM waves cannot escape the universe - witness the 12+ billion year old background radiation still propagating through the quantum aether to this very day.
--
73, Cecil, w5dxp.com

1722. Re: Why do balun builders always use "enameled" wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 18:03:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F1A292A54556nonenowhere@88.198.244.100>
Source record: 4273

Michael <google@shadowstorm.com> wrote in news:b0e34c58-9da5-4520-8433-35036063866b@x10g2000vbl.googlegroups.com:

>
>
> Why do balun builders always use "enameled" wire? Won't regular
> electrical insulated copper wire like they sell at Lowes or Home Depot
> work? Since copper is copper what is the benefit of enameled wire
> over other types of insulated wire? Also is there a benefit of using
> solid copper wire over stranded copper wire to build a balun?

The don't ALWAYS use enamelled wire, but yest, it is very common.

I previously reocmmended a 1:1 current balun to you, so I will answer your question in that context. (I do note though that someone has since recommended a voltage balun.)

If you are looking for a 'general purpose' balun to use with an ATU, you should be more interested in a balun that can withstand high voltages than close to ideal impedance transformation.

ECW is a relatively poor choice, and Thermaleze ECW which has a higher nominal voltage rating seems not up to the task at extreme loads. PTFE sleeved ECW or PTFE insulated flexible wires seem a better option for extreme loads.

Stranded wire does have higher loss than an equivalent circular conductor... but losses in a current balun in a practical antenna system are usually mostly due to common mode current causing heating of the core, ohmic losses in the windings are usually much lower and insigificant... though they do commonly feature in published specifications.

Again, more info is available if you want the links.

Owen

1723. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-05 21:50:44 UTC
From: Sal <sobars@aol.com>
Message-ID: <iv00vuvem1@dont-email.me>
Source record: 4274

W5DXP said:

It is quanta that pop into
and out of existence that acts as a transport medium for EM waves. EM
waves cannot propagate without "it" as a medium. That's why EM waves
cannot escape the universe - witness the 12+ billion year old
background radiation still propagating through the quantum aether to
this very day.
==========

I infer that a perfect vacuum wouldn't propagate EM waves. If a clear glass cube (or other hollow structure of your choice) could be evacuated completely, what would I see if I looked at it? Does light propagate through it? Would objects inside it disappear from view? The cube appear to be painted black on its inside walls?

"Sal"

1724. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-06 00:15:28 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <c513d6aa-9d70-4068-8262-33c16db396bc@m18g2000vbl.googlegroups.com>
Source record: 4275

On Jul 5, 4:50 pm, "Sal" <sob...@aol.com> wrote:
> I infer that a perfect vacuum wouldn't propagate EM waves.

Wrong - a perfect vacuum teems with the quantum soup and therefore
does propagate EM waves. What will not propagate EM waves is the
absence of the quantum soup, i.e. absolute nothingness which surrounds
the known universe..
--
73, Cecil, w5dxp.com

1725. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-06 18:59:55 UTC
From: Sal <sobars@aol.com>
Message-ID: <iv2bbe$3tu$1@dont-email.me>
Source record: 4276

"W5DXP" <w5dxp@hotmail.com> wrote in message
news:c513d6aa-9d70-4068-8262-33c16db396bc@m18g2000vbl.googlegroups.com...
On Jul 5, 4:50 pm, "Sal" <sob...@aol.com> wrote:
> I infer that a perfect vacuum wouldn't propagate EM waves.

Wrong - a perfect vacuum teems with the quantum soup and therefore
does propagate EM waves. What will not propagate EM waves is the
absence of the quantum soup, i.e. absolute nothingness which surrounds
the known universe..
--
73, Cecil, w5dxp.com

==========

I see "quantum soup" referred to in the context of the time immediately
after the Big Bang. How would you describe the latter-day quantum soup?
Photons? Something else? Is it of constant density or variable? If
variable, is there an optimum density?

The concept of "no EM waves propagating through nothingness" allows for the
existence of other Universes, about which we can know nothing unless one
begins to overlap our own. Even then, it might take billions of years for
their EM waves to reach us. Interesting to contemplate.

"Sal"
(KD6VKW)

1726. Re: Quite an interesting development ...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-06 21:11:35 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <7f78eed8-f69b-4cb9-b086-ab42ed2c41b3@u42g2000yqm.googlegroups.com>
Source record: 4277

On Jul 6, 1:59 pm, "Sal" <sob...@aol.com> wrote:
> I see "quantum soup" referred to in the context of the time immediately
> after the Big Bang. How would you describe the latter-day quantum soup?

After the time when the universe changed from being opaque to being transparent to EM light waves, a dilution of the quantum soup has occurred. The increase in the wavelength of the Big-Bang energy is proportional to the expansion of the universe. When the quantum soup gets diluted enough to cease its expansion pressure, gravity will take over and the universe will collapse into another singularity - ad infinitum - just as it has "always" been. The quantum soup is like a spring that releases expansion energy for a time and then stores collapsing energy for a time. What could possibly have more inertia than the entire universe?

P.S. It's hard to talk about the passing of time when time is known to cease to exist during a singularity. "How long does a singularity last?" is a nonsense question because time is undefined during a singularity.
--
73, Cecil, w5dxp.com

1727. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1310018700@panix.com>
Source record: 4278
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

1728. gt

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-09 09:54:01 UTC
From: punitha kannan <punithakpvg@gmail.com>
Message-ID: <15ac2034-3b04-47f3-9696-7875fd7ac582@x10g2000vbl.googlegroups.com>
Source record: 4279

webpage : http://123maza.com/65/dhoby582/

1729. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-10 02:02:02 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <ivb170$m0l$1@dont-email.me>
Source record: 4280

On 6/29/2011 11:04 AM, Cecil Moore wrote:

> A re-reflection preserves the modulation content of the re-reflected
> wave which can be proved by TV ghosting experiments. Wave cancellation
> due to destructive interference does NOT preserve the modulation. In
> fact, any differences in modulation between the two superposed wave
> components would wind up incident upon the source.
> --
> 73, Cecil, w5dxp.com

Oh, yeah?

1730. Re: Reflection coefficient for total re-reflection

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-10 03:21:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F1E87D1A8CE9nonenowhere@88.198.244.100>
Source record: 4281

John S <sophi.2@invalid.org> wrote in news:ivb170$m0l$1@dont-email.me:

> Oh, yeah?

Simply, the conditions for steady state analysis are not satisfied by TV bandwidth modulation on a long feed line.

This is the reason why some matching schemes that are quite suitable for SSB telephony on feedlines of a few hundred metres are not used with TV on long feedlines.

Owen

1731. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-13 06:04:25 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <b761bf79-fcfc-44f1-89a3-d3f993ec93c4@hi9g2000vbb.googlegroups.com>
Source record: 4282

just visit
http://fashion4paki.blogspot.com/
http://pakihealthpk.blogspot.com/
http://hotbollywoodactressesno1.blogspot.com/
http://hollywood1233.blogspot.com/
http://cricketin2011.blogspot.com/
http://fashion1298.blogspot.com/

1732. Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-13 16:42:16 UTC
From: amdx <amdx@knology.net>
Message-ID: <3ddf7$4e1dcb7d$4b4c116f$9581@KNOLOGY.NET>
Source record: 4283

Hi Guys,
I'm looking over the files at;
http://groups.yahoo.com/group/thedallasfiles/
These antennas are mostly for the AMBC band.
The author doesn't allow discussion on the site,
I wonder if anyone else has viewed these files and
has interest in the antennas and wants a discussion group.
Mikek

1733. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-14 00:35:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aces17l80qi6cr0ntie27bqcmj31r8een2@4ax.com>
Source record: 4284

On Wed, 13 Jul 2011 11:42:16 -0500, amdx <amdx@knology.net> wrote:

>Hi Guys,
> I'm looking over the files at;
> http://groups.yahoo.com/group/thedallasfiles/
>These antennas are mostly for the AMBC band.
> The author doesn't allow discussion on the site,
>I wonder if anyone else has viewed these files and
>has interest in the antennas and wants a discussion group.
> Mikek

Hi Mike,

Not much to recommend it.

73's
Richard Clark, KB7QHC

1734. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-14 02:09:02 UTC
From: amdx <amdx@knology.net>
Message-ID: <5694a$4e1e502c$18ec6dd7$3731@KNOLOGY.NET>
Source record: 4285

On 7/13/2011 7:35 PM, Richard Clark wrote:
> On Wed, 13 Jul 2011 11:42:16 -0500, amdx<amdx@knology.net> wrote:
>
>> Hi Guys,
>> I'm looking over the files at;
>> http://groups.yahoo.com/group/thedallasfiles/
>> These antennas are mostly for the AMBC band.
>> The author doesn't allow discussion on the site,
>> I wonder if anyone else has viewed these files and
>> has interest in the antennas and wants a discussion group.
>> Mikek
>
> Hi Mike,
>
> Not much to recommend it.
>
> 73's
> Richard Clark, KB7QHC

Do you mean you don't have an interest in the subject
or do you mean you have a better antenna for the
AMBC band?
If you have a better antenna, let me know, I'm ready to start
building. Ideally I want to rotate a flashlight beam...
but I'll settle for rotating a wide aperture null.

Mikek

1735. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-14 23:59:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <da0v17tn8qu035rr7musdvco2l9e1hgmeu@4ax.com>
Source record: 4286

On Wed, 13 Jul 2011 21:09:02 -0500, amdx <amdx@knology.net> wrote:

> Do you mean you don't have an interest in the subject
>or do you mean you have a better antenna for the
>AMBC band?
> If you have a better antenna, let me know, I'm ready to start
>building. Ideally I want to rotate a flashlight beam...
>but I'll settle for rotating a wide aperture null.
>
> Mikek

Hi Mike,

The subject is Dallas Files, right?

What does that mean?

I've no interest in playing games with the author who refuses to engage in dialog simply to access files of unknown content. Apparently given the dearth of participation, neither does anyone else. With the absence of discussion at the author's site, there is no interest there either.

Now, if you care to describe what you have come to learn, that is another matter. I presume by implication alone that this is about small, beam stearable, receive-only antennas. Unfortunately, there's a lot left unsaid.

73's
Richard Clark, KB7QHC

1736. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-15 00:31:17 UTC
From: amdx <amdx@knology.net>
Message-ID: <71315$4e1f8af0$18ec6dd7$31173@KNOLOGY.NET>
Source record: 4287

On 7/14/2011 6:59 PM, Richard Clark wrote:
> On Wed, 13 Jul 2011 21:09:02 -0500, amdx<amdx@knology.net> wrote:
>
>> Do you mean you don't have an interest in the subject
>> or do you mean you have a better antenna for the
>> AMBC band?
>> If you have a better antenna, let me know, I'm ready to start
>> building. Ideally I want to rotate a flashlight beam...
>> but I'll settle for rotating a wide aperture null.
>>
>> Mikek
>
> Hi Mike,
>
> The subject is Dallas Files, right?
>
> What does that mean?
>
> I've no interest in playing games with the author who refuses to
> engage in dialog simply to access files of unknown content. Apparently
> given the dearth of participation, neither does anyone else. With the
> absence of discussion at the author's site, there is no interest there
> either.
>
> Now, if you care to describe what you have come to learn, that is
> another matter. I presume by implication alone that this is about
> small, beam stearable, receive-only antennas. Unfortunately, there's
> a lot left unsaid.
>
> 73's
> Richard Clark, KB7QHC
Hi Richard,
Ya, the author has no interest in engaging, he just posts what he has learned. The site was recently moved to Yahoo and is only about 2 months old. As for the absence of discussion on the site, it's not allowed, so that is hardly an indicator.
Yes, I'm looking a steerable receive only arrays for the AM broadcast band. Myself, I want one that will fit on a 150ft lot.
Sounds like you didn't look at the site so "what is left unsaid."

Thanks, Mikek

1737. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-15 00:34:38 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <ivo1v2$3v6$5@dont-email.me>
Source record: 4288

On 7/14/2011 7:31 PM, amdx wrote:
> On 7/14/2011 6:59 PM, Richard Clark wrote:
>> On Wed, 13 Jul 2011 21:09:02 -0500, amdx<amdx@knology.net> wrote:
>>
>>> Do you mean you don't have an interest in the subject
>>> or do you mean you have a better antenna for the
>>> AMBC band?
>>> If you have a better antenna, let me know, I'm ready to start
>>> building. Ideally I want to rotate a flashlight beam...
>>> but I'll settle for rotating a wide aperture null.
>>>
>>> Mikek
>>
>> Hi Mike,
>>
>> The subject is Dallas Files, right?
>>
>> What does that mean?
>>
>> I've no interest in playing games with the author who refuses to
>> engage in dialog simply to access files of unknown content. Apparently
>> given the dearth of participation, neither does anyone else. With the
>> absence of discussion at the author's site, there is no interest there
>> either.
>>
>> Now, if you care to describe what you have come to learn, that is
>> another matter. I presume by implication alone that this is about
>> small, beam stearable, receive-only antennas. Unfortunately, there's
>> a lot left unsaid.
>>
>> 73's
>> Richard Clark, KB7QHC
> Hi Richard,
> Ya, the author has no interest in engaging, he just posts what he has
> learned. The site was recently moved to Yahoo and is only about 2 months
> old. As for the absence of discussion on the site, it's not allowed, so
> that is hardly an indicator.
> Yes, I'm looking a steerable receive only arrays for the AM broadcast
> band. Myself, I want one that will fit on a 150ft lot.
> Sounds like you didn't look at the site so "what is left unsaid."
>
> Thanks, Mikek
>

I don't know what you found there, Mikek, but I have see nothing
concerning antennas.

1738. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-15 01:07:55 UTC
From: amdx <amdx@knology.net>
Message-ID: <1c21f$4e1f9360$18ec6dd7$6239@KNOLOGY.NET>
Source record: 4289

On 7/14/2011 7:34 PM, John S wrote:
> On 7/14/2011 7:31 PM, amdx wrote:
>> On 7/14/2011 6:59 PM, Richard Clark wrote:
>>> On Wed, 13 Jul 2011 21:09:02 -0500, amdx<amdx@knology.net> wrote:
>>>
>>>> Do you mean you don't have an interest in the subject
>>>> or do you mean you have a better antenna for the
>>>> AMBC band?
>>>> If you have a better antenna, let me know, I'm ready to start
>>>> building. Ideally I want to rotate a flashlight beam...
>>>> but I'll settle for rotating a wide aperture null.
>>>>
>>>> Mikek
>>>
>>> Hi Mike,
>>>
>>> The subject is Dallas Files, right?
>>>
>>> What does that mean?
>>>
>>> I've no interest in playing games with the author who refuses to
>>> engage in dialog simply to access files of unknown content. Apparently
>>> given the dearth of participation, neither does anyone else. With the
>>> absence of discussion at the author's site, there is no interest there
>>> either.
>>>
>>> Now, if you care to describe what you have come to learn, that is
>>> another matter. I presume by implication alone that this is about
>>> small, beam stearable, receive-only antennas. Unfortunately, there's
>>> a lot left unsaid.
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>> Hi Richard,
>> Ya, the author has no interest in engaging, he just posts what he has
>> learned. The site was recently moved to Yahoo and is only about 2 months
>> old. As for the absence of discussion on the site, it's not allowed, so
>> that is hardly an indicator.
>> Yes, I'm looking a steerable receive only arrays for the AM broadcast
>> band. Myself, I want one that will fit on a 150ft lot.
>> Sounds like you didn't look at the site so "what is left unsaid."
>>
>> Thanks, Mikek
>>

>
> I don't know what you found there, Mikek, but I have see nothing
> concerning antennas.
>
>
I think you need to join, to see the 14 antenna files (pdfs)
Some of the other files are Small Signal amplifiers, Receivers
and Theory.
Mikek

1739. Frank Rossio (KK6FR) involved in Murder Attempt?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-15 02:32:46 UTC
From: Nomen Nescio <nobody@dizum.com>
Message-ID: <151777785cbb29fddc16b805d3e88c77@dizum.com>
Source record: 4290
Cross-posted to: rec.radio.amateur.dx,rec.radio.amateur.antenna

URL -- http://www.vvdailypress.com/news/shot-28670-feud-fired.html

Shot fired when neighbor feud escalates

July 05, 2011 1:01 PM

PINON HILLS • A Pinon Hills man is behind bars for attempted murder after allegedly shooting into his neighbor•s home following an argument, San Bernardino County Sheriff•s Department officials said.
Baron Smith, 47, became involved in an disagreement with his neighbor Sunday and it escalated, Jodi Miller, spokeswoman for the sheriff•s department, said. According to reports, the neighbors had been feuding for some time. •This is an ongoing fight and this time it accelerated to that level,• she said. Authorities received several reports of a man shooting toward a house in the 2500 block of Olivera Road at about 6:30 p.m., according to Miller. When deputies arrived, they learned Smith had gone back to his home across the street from where the shooting had taken place. Officials went to the home and arrested Smith.
The Pinon Hills man was booked into Victor Valley Jail for attempted murder. He•s scheduled to be in court Wednesday.

--

The unnamed individual is Frank Rossio older brother of screen writer
Terry Rossio.

On 3840kHz the below between July 1 and July 11 between the hours
of 9:00PM (PST) and 4:00AM (PST) all the below individuals below

KI6GPR, (Cosmo - John), of Santa Clarita, CALIF
NO6L , Charles (Chuck) G Ruff of Tehachapi, CALIF
KI6DKV, Noel W Burman of North Hollywood,CALIF
KK6FR, Frank Rossio of 2540 Olivera, Phelan, CALIF

have stated that Frank Rossio (kk6fr) will own Baron Smiths property,
and all have used a gang like character assassination against Smith.
There is some collusion with the individuals above and Frank Rossio to
illegally obtain Smiths property.
The individuals above should be investigated.

ALSO consider

point one - Rossio owns the defunct FG Bestcommunications, a company
that entitles him to obtain dangerous chemicals and may be fraudulently
using his business license to claim tax exemptions. In August of 2010
AD8Q Kevin Caprio, drove to Phelan and purchased some equipment

from kk6fr then returned back to Arizona dropped dead shorty thereafter after complaining of massive headaches.

point two - ke6ynh, Tom from San Diego got into a big argument with

kk6fr and no6l about November of 2010 on 3840kHz. Both Frank Rossio and Ruff threatened to drive down and kill Tom, well in December 2010, passed on from mysterious causes. Ironically when the two silent keys died, Frank exhibited no apathy and even praised their deaths. In regards to Smiths arrest he bragged about it and mentioned "his (Smiths) property is as good as gold his (franks)."
Something is going on! Frank Rossio and his clan of cohorts needs to be investigated. KK6FR is nothing but a liar, braggart, punk, who threatens people and exhibits a schizoid personality, one trait is his lying and contorting stories, no different than a con man!

DO NOT BELIEVE EVERYTHING FRANK ROSSIO SAYS IT'S A
RUSE. IF YOU ARE A HAM YOU'D BE ADVISED TO AVOID ANY QSO
WITH THE ABOVE INDIVIDUALS.

1740. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-15 06:20:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <plkv175rqbtuvrmqhbdfbvvvsh41p0e1hs@4ax.com>
Source record: 4291

On Thu, 14 Jul 2011 19:31:17 -0500, amdx <amdx@knology.net> wrote:

> Sounds like you didn't look at the site so "what is left unsaid."

Hi Mike,

As I said, nothing there but a vague suggestion of the topic heavily cloaked in an admonition.

> Yes, I'm looking a steerable receive only arrays for the AM broadcast
>band. Myself, I want one that will fit on a 150ft lot.

Is that 150' on a side? 150' long?

There are any number of ways to construct variable delay lines. A little bit of computer control will pull their outputs together to form beam steering.

Planting the antennas is simple and allows for testing of any of those many ways to construct variable delay lines. Those designs themselves have various trade-offs for issues you need to prioritize and pronounce. The antennas don't need to be in any particular, regular pattern as that would be accommodated by computer alignment.

If you choose to go manual steering, with analog variable delay line designs; then, yes, having a regular pattern of element layout would reduce complexity.

How many antenna elements? At least three, I would suspect. From there on it is a matter of how well you can resolve the various delay angles for steering a broad beam angle. Increase the number of elements and the beam angle gets progressively tighter. You don't say how much directionality you want, but it will be intimately correlated with this count.

The delay lines will have to be tolerant of mutual coupling - better yet, they should not perturb the existing mutual coupling at all. Good isolation amplifiers between each element and its delay line before going to a summing amplifier would seem a solution. Tracking between delay lines will affect beam width. More elements will require tighter tracking.

Then there is something simpler, an Adcock Antenna and the Bellini Tosi Antenna (about 100 years old, but does the job too). There is the Krug (Wullenweber) antenna. They are all symmetrical designs that simplified the manual, analog delay lines design.

In the end, they all comprise the same fundamentals. If you cannot support a symmetrical design, that is your primary limiting factor. If you can digitize the delay lines, then symmetry can be synthesized and the antennas can be placed physically anywhere limited only by the resolution of digital sampling rate.

73's
Richard Clark, KB7QHC

1741. XXX HOT PHOTOS & VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-15 13:56:13 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <4015c702-9d6b-4d0b-94e5-51f2c1700dae@v11g2000prn.googlegroups.com>
Source record: 4292

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

FOR HOT PHOTO&VIDEOS
TAPSEE RARE PHOTOS
http://southactresstou.blogspot.com/2011/06/tapsee-rare-photos.html
KATRINA KAIF RARE PHOTOS
http://southactresstou.blogspot.com/2011/07/katrina-kaif-wallpapers.html
TAMANNA HOT SEXY PHOTOS & VIDEOS
http://southactresstou.blogspot.com/2011/07/tamanna-wallpapers.html
PRANITHA LATEST BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html
KAJAL AGARWAL HOT SEXY PHOTOS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
KATRINA KAIF IN BEAUTIFUL RED DRESS
http://southactresstou.blogspot.com/2011/05/katrina-kaif_22.html
GOOD LOOKING DEEPIKA PADUKONE
http://southactresstou.blogspot.com/2011/05/deepika-padukone_22.html
AISHWARYA RAI UNBELIVABLE PHOTO
http://southactresstou.blogspot.com/2011/05/aishwarya-rai.html

FOR FAST UPDATES IN TELUGU FILM INDUSTRY
http://allyouwants.blogspot.com

1742. Broadcast Tower Hoogersmilde (Netherlands) down due to fire.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-15 16:01:36 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <37edd$4e2063c2$5355cc82$2943@cache100.multikabel.net>
Source record: 4293

First there was a fire in the 300m IJsselstein (lopik) tower, some hours later there was a fire in the "Smilde" tower (also about 300m/980ft).

The construction (Smilde tower) couldn't resist the heat and collapsed, see the video.

http://www.youtube.com/watch?v=VdMLiL4vlHc

Now 80% of the Netherlands can't get national radio over the air (as the Lopik tower is still inoperative because of investigation).

Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

1743. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-16 17:22:26 UTC
From: amdx <amdx@knology.net>
Message-ID: <355ba$4e21c8d7$4b4c116f$4728@KNOLOGY.NET>
Source record: 4294

On 7/15/2011 1:20 AM, Richard Clark wrote:
> On Thu, 14 Jul 2011 19:31:17 -0500, amdx<amdx@knology.net> wrote:
>
>> Sounds like you didn't look at the site so "what is left unsaid."
>
> Hi Mike,
>
> As I said, nothing there but a vague suggestion of the topic heavily
> cloaked in an admonition.
>
You cast dispersions, but haven't looked at any of the antenna
systems. Look at just one and see if you any thoughts.
Look at "Hi Z PPL Loop And Flag Arrays.pdf" it's the 5th file down
on the antennas page.

>> Yes, I'm looking a steerable receive only arrays for the AM broadcast
>> band. Myself, I want one that will fit on a 150ft lot.
>
> Is that 150' on a side? 150' long?
>
> There are any number of ways to construct variable delay lines. A
> little bit of computer control will pull their outputs together to
> form beam steering.
>
Are you aware that steering the null is very important for AM
band dxing?

Mikek

1744. Re: Has "antenna" died?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-16 17:29:39 UTC
From: Crispytwotrees@notallthere.com
Message-ID: <qUjUp.15885$T85.211@newsfe19.ams2>
Source record: 4295

well your still here 2 years on....

1745. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-16 17:43:16 UTC
From: amdx <amdx@knology.net>
Message-ID: <4adf9$4e21cdb9$4b4c116f$6252@KNOLOGY.NET>
Source record: 4296

On 6/28/2011 1:38 PM, Jeff Liebermann wrote:
> On Tue, 28 Jun 2011 11:00:44 -0700 (PDT), Michael
> <google@shadowstorm.com> wrote:
>
>> I was researching multi-element driven array antennas when I stumbled
>> across the web page below. It talks about a curtain quad antenna. Is
>> this proven antenna design or antenna snake oil?
>>
>> http://home.comcast.net/~ross_anderson/CurtainQuad.htm
>
> Very real. I built the 2.4Ghz version. It works, but is rather
> large. Unless you have plenty of real estate and tall towers, this is
> not an HF antenna.
>

Hi Jeff,
Why didn't the loop sizes shrink, when the author went from 1296Mhz
to 2400Mhz. First thing I thought about was etching it on a PCB.
But then saw he built the higher freq antenna with the same loop
lengths.
Mikek

> His curtain quad calculations and NEC2 deck are at:
> <http://home.comcast.net/~ross_anderson/CurtainQuadFigure11.htm>
>
> There's also the Sterba Curtain
> <http://imageevent.com/holl_ands/notfortv/sterba;jsessionid=ldhsj5x2v1.penguin_s>
> Gray-Hoverman
> <http://imageevent.com/holl_ands/grayhoverman/hovermantype1>
> and other antennas
> <http://imageevent.com/holl_ands/chireix/chireixmesnyrefl>
> resembling a collection of quads. As long as you get the phasing
> correct, almost any geometry will radiate and have gain.
>

1746. 10 THROUGH 20 METER BROADBAND HEX BEAM KIT

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-16 17:49:06 UTC
From: "k6tuy@att.net" <k6tuy@att.net>
Message-ID: <ae499447-c66e-483b-b972-868825fd493a@g5g2000prn.googlegroups.com>
Source record: 4297

I HAVE MOST EVERYTHING NEEDED TO ASSEMBLE A NEW HEXBEAM 10 THROUGH 20 METER BROADBAND BEAM. ALL PARTS ARE LIKE NEW. FIBERGLASS HAS BEEN PAINTED. WOULD PREFER SELLING TO SOMEONE IN SOUTHERN CALIFORNIA SO AS TO NOT INVOLVE SHIPPING BUT WOULD CONSIDER SHIPPING. $200 TAKES ALL. THANKS FOR LOOKING.....73'S, BOB (K6TUY) (K6TUY@ATT.NET)

1747. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-16 19:45:57 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <ae699$4e21e9d4$5355cc82$16022@cache100.multikabel.net>
Source record: 4298

El 28-06-11 20:00, Michael escribiï¿½:
>
> I was researching multi-element driven array antennas when I stumbled
> across the web page below. It talks about a curtain quad antenna. Is
> this proven antenna design or antenna snake oil?
>
> http://home.comcast.net/~ross_anderson/CurtainQuad.htm
>
> -Michael Rawls
> KS4HY
>
Hello Michael,

It isn't snake oil, but with many elements, it is difficult to get it
working in practice. Such structures are narrow band and you don't
have a single tuning point to correct something.

If you plan to build an existing antenna, make sure to make a real
good copy of it. Just a good SWR doesn't automatically mean you have
the correct current distribution to get the stated gain.

With kind regards.

Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

1748. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-16 22:50:13 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <nh4427pb0g9o8mld9v77bs1tcb8bmq193j@4ax.com>
Source record: 4299

On Sat, 16 Jul 2011 12:43:16 -0500, amdx <amdx@knology.net> wrote:

>Hi Jeff,
> Why didn't the loop sizes shrink, when the author went from 1296Mhz
>to 2400Mhz. First thing I thought about was etching it on a PCB.
>But then saw he built the higher freq antenna with the same loop
>lengths.
>Mikek

I'm not quite sure what you mean. However, I have a guess(tm).

>> His curtain quad calculations and NEC2 deck are at:
>> <http://home.comcast.net/~ross_anderson/CurtainQuadFigure11.htm>

If you scroll down to the bottom of the NEC deck, you'll find the
line:
FR 0 1 0 0 1332 0 'simulation is at 1332 MHz
That's the operating frequency. Change it to 2442 MHz and you have a
2.4GHz antenna.

The element dimensions in the NEC deck are in wavelengths. This makes
it very easy to use a design on different frequency. In order to
obtain construction lengths, simply multiply each element length by
the free space wavelegth. For 2.4GHz, that's about 12.5cm.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1749. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 00:32:20 UTC
From: Sal <sobars@aol.com>
Message-ID: <ivtaiq$8eb$2@dont-email.me>
Source record: 4300

"amdx" <amdx@knology.net> wrote in message
news:71315$4e1f8af0$18ec6dd7$31173@KNOLOGY.NET...

> ...the author has no interest in engaging, he just posts what he has
> learned.
==========

. .. and it looks like he has a serious hard-on for anybody who's a ham
or an engineer or both. I applied to join the group, stating those things
about myself and saying I had a lifelong interest in improving radio
reception. I don't recall that I said anything else.

Here's what happened next (quoting from yahoo's email to me):

Hello,

Your request to join the thedallasfiles group was not approved.
The moderator of each Yahoo! group chooses whether to restrict
membership in the group. Moderators who choose to restrict
membership also choose whom to admit.

Please note that this decision is final and that Yahoo! Groups
does not control group membership.
< remaining form-letter chatter snipped >

Doesn't make a whole lot of sense
to me. I planned to be an asset in his group. Anybody
have the same experience or am I special? ;-)

"Sal"

1750. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 01:59:34 UTC
From: amdx <amdx@knology.net>
Message-ID: <e0909$4e224209$18ec6dd7$3516@KNOLOGY.NET>
Source record: 4301

On 7/16/2011 5:50 PM, Jeff Liebermann wrote:
> On Sat, 16 Jul 2011 12:43:16 -0500, amdx<amdx@knology.net> wrote:
>
>
>> Hi Jeff,
>> Why didn't the loop sizes shrink, when the author went from 1296Mhz
>> to 2400Mhz. First thing I thought about was etching it on a PCB.
>> But then saw he built the higher freq antenna with the same loop
>> lengths.
>> Mikek
>
> I'm not quite sure what you mean. However, I have a guess(tm).
>
>>> His curtain quad calculations and NEC2 deck are at:
>>> <http://home.comcast.net/~ross_anderson/CurtainQuadFigure11.htm>
>
> If you scroll down to the bottom of the NEC deck, you'll find the
> line:
> FR 0 1 0 0 1332 0 'simulation is at 1332 MHz
> That's the operating frequency. Change it to 2442 MHz and you have a
> 2.4GHz antenna.
>
> The element dimensions in the NEC deck are in wavelengths. This makes
> it very easy to use a design on different frequency. In order to
> obtain construction lengths, simply multiply each element length by
> the free space wavelegth. For 2.4GHz, that's about 12.5cm.
>
Ah.. I'm still confused, For the 1296 antenna he used 2" x 3" fence
material and then the same 2" x 3" for the 2.4Ghz antenna except for
wire diameter.
Mikek

1751. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 03:38:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <63m427l3isf213lcqorkepeumd677ejn4g@4ax.com>
Source record: 4302

On Sat, 16 Jul 2011 17:32:20 -0700, "Sal" <sobars@aol.com> wrote:

>am I special? ;-)

Yes, as your name is now among the select in the scrolls of the
"Dallas Files."

1752. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 04:14:29 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ttn4279bpjgk90516ednvdqchhcpg9qdi0@4ax.com>
Source record: 4303

On Sat, 16 Jul 2011 20:59:34 -0500, amdx <amdx@knology.net> wrote:

>>>> His curtain quad calculations and NEC2 deck are at:
>>>> <http://home.comcast.net/~ross_anderson/CurtainQuadFigure11.htm>

> Ah.. I'm still confused, For the 1296 antenna he used 2" x 3" fence
>material and then the same 2" x 3" for the 2.4Ghz antenna except for
>wire diameter.
> Mikek

That's just the reflector material. Quoting from the above URL:
"The antenna is constructed from 3 inch by 2 inch galvanized
welded wire fence. Wire radius is 0.039 inch."
The reflector is not sensitive to the wire spacing as long as it's
sufficiently small. You could use chicken wire, wire mesh, metal
window bug screening, a barbeque grill, etc for the reflector. I used
some gastly 1/4" galvanized wire mesh, covered with aluminum foil.
For 1.2Ghz, his relfector is 28x21 inches. For 2.4Ghz:
<http://home.comcast.net/~ross_anderson/2400MHzAntenna.htm>
he didn't mention the size of the reflector, but it would half the
size of the 1.2GHz reflector.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1753. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 04:47:56 UTC
From: Sal <sobars@aol.com>
Message-ID: <ivtpi2etm1@dont-email.me>
Source record: 4304

"Sal" <sobars@aol.com> wrote in message news:ivtaiq$8eb$2@dont-email.me...

A quick followup and then no more.

The owner of the group takes a distinct approach to determining whom he admits. Out of respect for maintainiing its integrity, I will say no more.

He evidently doesn't "have it in" for anybody by group, profession, etc..

"Sal"

1754. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 05:35:22 UTC
From: Sal <sobars@aol.com>
Message-ID: <ivtsb5qdk1@dont-email.me>
Source record: 4305

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:63m427l3isf213lcqorkepeumd677ejn4g@4ax.com...
> On Sat, 16 Jul 2011 17:32:20 -0700, "Sal" <sobars@aol.com> wrote:
>
>>am I special? ;-)
>
> Yes, as your name is now among the select in the scrolls of the
> "Dallas Files."

That's funny, but note the next post, "a quick followup," which I wrote and sent during the lag time before yours appeared.

Special, ordinary ... whatever I am; apparently I can join, after all.

"Sal"

1755. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 13:03:02 UTC
From: amdx <amdx@knology.net>
Message-ID: <deee1$4e22de0d$18ec6dd7$22883@KNOLOGY.NET>
Source record: 4306

On 7/16/2011 11:47 PM, Sal wrote:
> "Sal"<sobars@aol.com> wrote in message news:ivtaiq$8eb$2@dont-email.me...
>
> A quick followup and then no more.
>
> The owner of the group takes a distinct approach to determining whom he
> admits. Out of respect for maintainiing its integrity, I will say no more.
>
> He evidently doesn't "have it in" for anybody by group, profession, etc..
>
> "Sal"
>
>
>
This all seems odd to me.
I had no problem getting admitted, he works with several hams regarding
his antenna systems, so it's not about hams.
I think he has some great research using single, dual and quad phased
Flag or Delta antennas. There's also info on building a circuit for
adjustable phasing of two antennas.
So get another email address and just say you have an interest in
improving your AM radio reception.

Mikek

1756. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 13:59:08 UTC
From: amdx <amdx@knology.net>
Message-ID: <9495a$4e22eb34$18ec6dd7$27222@KNOLOGY.NET>
Source record: 4307

On 7/16/2011 11:14 PM, Jeff Liebermann wrote:
> On Sat, 16 Jul 2011 20:59:34 -0500, amdx<amdx@knology.net> wrote:
>
>>>>> His curtain quad calculations and NEC2 deck are at:
>>>>> <http://home.comcast.net/~ross_anderson/CurtainQuadFigure11.htm>
>
>> Ah.. I'm still confused, For the 1296 antenna he used 2" x 3" fence
>> material and then the same 2" x 3" for the 2.4Ghz antenna except for
>> wire diameter.
>> Mikek
>
> That's just the reflector material. Quoting from the above URL:
> "The antenna is constructed from 3 inch by 2 inch galvanized
> welded wire fence. Wire radius is 0.039 inch."
> The reflector is not sensitive to the wire spacing as long as it's
> sufficiently small. You could use chicken wire, wire mesh, metal
> window bug screening, a barbeque grill, etc for the reflector. I used
> some gastly 1/4" galvanized wire mesh, covered with aluminum foil.
> For 1.2Ghz, his relfector is 28x21 inches. For 2.4Ghz:
> <http://home.comcast.net/~ross_anderson/2400MHzAntenna.htm>
> he didn't mention the size of the reflector, but it would half the
> size of the 1.2GHz reflector.
>

Copied and pasted from the Curtain site.

13 element Curtain Quad for 1296MHz described

The material list is as follows:
---
3 inch by 2 inch welded wire fence (from Orchard Supply Hardware).
The wire radius is about 0.039 inch, which is what #14 steel wire is
when galvanized.---Foam insulation 2 inch thick

And then the parts list for the 2.4Ghz antenna
...
3 inch by 2 inch welded wire fence (bought locally from Orchard Supply
Hardware). The wire radius is about 0.031 inch, which is what #16 steel
wire is when galvanized.--- Foam insulation 1 inch thick
...

As you can see the loops lengths are the same, 3 inch by 2 inch
size. The wire radius is reduced from 0.039" to 0.31" for the 2.4Ghz
antenna, and the reflector distance is doubled.

I can't tell if maybe he has cut out wires on the 1296 antenna
to double the area, no that would quadruple the area.

This will be my last attempt to understand, so give it one more shot
to inform me. :-)
Thanks, Mikek

1757. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 20:49:46 UTC
From: Sal <sobars@aol.com>
Message-ID: <ivvhtg$m5m$1@dont-email.me>
Source record: 4308

"amdx" <amdx@knology.net> wrote in message
news:deee1$4e22de0d$18ec6dd7$22883@KNOLOGY.NET...

< snip >

> This all seems odd to me.
> I had no problem getting admitted, he works with several hams regarding
> his antenna systems, so it's not about hams.
> I think he has some great research using single, dual and quad phased
> Flag or Delta antennas. There's also info on building a circuit for
> adjustable phasing of two antennas.
> So get another email address and just say you have an interest in
> improving your AM radio reception.
>
> Mikek

But, yet, I got turned down again, even though I fully complied with his directions. The problem is that I politely added my opinion that his methodology for rejecting his group's applicants had a flaw in my case. (He had earlier explained some of it to me in a thoughtful and candid private email.) Obviously, I should have kept my opinion to myself. I live and learn.

He responded to me with a curt one-line private email saying that the flaw was in _my logic_. From that, coupled with his third rejection two minutes later, I conclude that the mere mention of anything negative is an instant deal-breaker. He had earlier described trouble he'd had in his group with people he termed "bad boys." It's much easier to be dubbed one of his "bad boys" than I would have guessed. Wow!

Yes, I could try to trick him with another email address; however, since I'm not welcome at his front door, why risk the humiliation if he catches me prying open a back window? I'm already somewhat annoyed at myself for this missed opportunity. Why make it worse?

OK, so the final score is Dallas 3, Me 0. Game over. *sigh*

"Sal"

1758. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 22:01:31 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <ivvm3rnna1@dont-email.me>
Source record: 4309

On 7/17/2011 3:49 PM, Sal wrote:
> "amdx"<amdx@knology.net> wrote in message
> news:deee1$4e22de0d$18ec6dd7$22883@KNOLOGY.NET...
>
>
> < snip>
>
>> This all seems odd to me.
>> I had no problem getting admitted, he works with several hams regarding
>> his antenna systems, so it's not about hams.
>> I think he has some great research using single, dual and quad phased
>> Flag or Delta antennas. There's also info on building a circuit for
>> adjustable phasing of two antennas.
>> So get another email address and just say you have an interest in
>> improving your AM radio reception.
>>
>> Mikek
>
> But, yet, I got turned down again, even though I fully complied with his
> directions. The problem is that I politely added my opinion that his
> methodology for rejecting his group's applicants had a flaw in my case. (He
> had earlier explained some of it to me in a thoughtful and candid private
> email.) Obviously, I should have kept my opinion to myself. I live and
> learn.
>
> He responded to me with a curt one-line private email saying that the flaw
> was in _my logic_. From that, coupled with his third rejection two minutes
> later, I conclude that the mere mention of anything negative is an instant
> deal-breaker. He had earlier described trouble he'd had in his group with
> people he termed "bad boys." It's much easier to be dubbed one of his "bad
> boys" than I would have guessed. Wow!
>
> Yes, I could try to trick him with another email address; however, since I'm
> not welcome at his front door, why risk the humiliation if he catches me
> prying open a back window? I'm already somewhat annoyed at myself for this
> missed opportunity. Why make it worse?
>
> OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
>
> "Sal"

Thanks for the info, Sal. I had entertained the thought of signing up.
Apparently, it's not worth it.

John - KD5YI

1759. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 22:27:37 UTC
From: amdx <amdx@knology.net>
Message-ID: <ed69b$4e236263$4b4c116f$24673@KNOLOGY.NET>
Source record: 4310

On 7/17/2011 5:01 PM, John S wrote:
> On 7/17/2011 3:49 PM, Sal wrote:
>> "amdx"<amdx@knology.net> wrote in message
>> news:deee1$4e22de0d$18ec6dd7$22883@KNOLOGY.NET...
>>
>>
>> < snip>
>>
>>> This all seems odd to me.
>>> I had no problem getting admitted, he works with several hams regarding
>>> his antenna systems, so it's not about hams.
>>> I think he has some great research using single, dual and quad phased
>>> Flag or Delta antennas. There's also info on building a circuit for
>>> adjustable phasing of two antennas.
>>> So get another email address and just say you have an interest in
>>> improving your AM radio reception.
>>>
>>> Mikek
>>
>> But, yet, I got turned down again, even though I fully complied with his
>> directions. The problem is that I politely added my opinion that his
>> methodology for rejecting his group's applicants had a flaw in my
>> case. (He
>> had earlier explained some of it to me in a thoughtful and candid private
>> email.) Obviously, I should have kept my opinion to myself. I live and
>> learn.
>>
>> He responded to me with a curt one-line private email saying that the
>> flaw
>> was in _my logic_. From that, coupled with his third rejection two
>> minutes
>> later, I conclude that the mere mention of anything negative is an
>> instant
>> deal-breaker. He had earlier described trouble he'd had in his group with
>> people he termed "bad boys." It's much easier to be dubbed one of his
>> "bad
>> boys" than I would have guessed. Wow!
>>
>> Yes, I could try to trick him with another email address; however,
>> since I'm
>> not welcome at his front door, why risk the humiliation if he catches me
>> prying open a back window? I'm already somewhat annoyed at myself for
>> this
>> missed opportunity. Why make it worse?

>>
>> OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
>>
>> "Sal"
>
> Thanks for the info, Sal. I had entertained the thought of signing up.
> Apparently, it's not worth it.
>
> John - KD5YI

Well it is worth it, if you have an interest in broadcast band phased
receiving antennas. Once your in, you can download the pdf files or just
look them over to your hearts content.
I was just hoping for someone else to talk nulling antennas with.
oh well,
John if you send me a private email, I'll send a sample or two
of what's on the site.
Thanks, Mikek

1760. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 22:35:29 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <ivvo3inna6@dont-email.me>
Source record: 4311

```
On 7/17/2011 5:27 PM, amdx wrote:
> On 7/17/2011 5:01 PM, John S wrote:
>> On 7/17/2011 3:49 PM, Sal wrote:
>>> "amdx"<amdx@knology.net> wrote in message
>>> news:deee1$4e22de0d$18ec6dd7$22883@KNOLOGY.NET...
>>>
>>>
>>> < snip>
>>>
>>>> This all seems odd to me.
>>>> I had no problem getting admitted, he works with several hams regarding
>>>> his antenna systems, so it's not about hams.
>>>> I think he has some great research using single, dual and quad phased
>>>> Flag or Delta antennas. There's also info on building a circuit for
>>>> adjustable phasing of two antennas.
>>>> So get another email address and just say you have an interest in
>>>> improving your AM radio reception.
>>>>
>>>> Mikek
>>>
>>> But, yet, I got turned down again, even though I fully complied with his
>>> directions. The problem is that I politely added my opinion that his
>>> methodology for rejecting his group's applicants had a flaw in my
>>> case. (He
>>> had earlier explained some of it to me in a thoughtful and candid
>>> private
>>> email.) Obviously, I should have kept my opinion to myself. I live and
>>> learn.
>>>
>>> He responded to me with a curt one-line private email saying that the
>>> flaw
>>> was in _my logic_. From that, coupled with his third rejection two
>>> minutes
>>> later, I conclude that the mere mention of anything negative is an
>>> instant
>>> deal-breaker. He had earlier described trouble he'd had in his group
>>> with
>>> people he termed "bad boys." It's much easier to be dubbed one of his
>>> "bad
>>> boys" than I would have guessed. Wow!
>>>
>>> Yes, I could try to trick him with another email address; however,
>>> since I'm
>>> not welcome at his front door, why risk the humiliation if he catches me
```

>>> prying open a back window? I'm already somewhat annoyed at myself for
>>> this
>>> missed opportunity. Why make it worse?
>>>
>>> OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
>>>
>>> "Sal"
>>
>> Thanks for the info, Sal. I had entertained the thought of signing up.
>> Apparently, it's not worth it.
>>
>> John - KD5YI
>
> Well it is worth it, if you have an interest in broadcast band phased
> receiving antennas. Once your in, you can download the pdf files or just
> look them over to your hearts content.
> I was just hoping for someone else to talk nulling antennas with.
> oh well,
> John if you send me a private email, I'll send a sample or two
> of what's on the site.
> Thanks, Mikek
>

I appreciate the offer, MikeK, but I'm not interested in material where
the keeper is so hard-nosed.

Thanks anyway.

John - KD5YI

1761. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-17 23:19:33 UTC
From: Sal <sobars@aol.com>
Message-ID: <ivvqmd$fm9$1@dont-email.me>
Source record: 4312

"John S" <sophi.2@invalid.org> wrote in message
news:ivvm3rnna1@dont-email.me...
>
> Thanks for the info, Sal. I had entertained the thought of signing up.
> Apparently, it's not worth it.
>
> John - KD5YI

I wouldn't say that. I don't know! Give it a try.

Academically, he certainly has credentials. I easily discovered article references showing he holds a PhD in Mathematics. He's a current university professor and a widely regarded antenna expert.

I think he just doesn't tolerate people who cross him. I can't, in good conscience, condemn him outright for that. Maybe he's just over his lifetime toleration for the behavior of smart-ass 18-year-olds (and anybody else that doesn't fly right).

Sal

1762. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 01:11:24 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <t2v627tnbd6sonbdpktn9ptgct7tacnarb@4ax.com>
Source record: 4313

On Sun, 17 Jul 2011 08:59:08 -0500, amdx <amdx@knology.net> wrote:

>Copied and pasted from the Curtain site.
>
>13 element Curtain Quad for 1296MHz described
>
> The material list is as follows:
>---
> 3 inch by 2 inch welded wire fence (from Orchard Supply Hardware).
> The wire radius is about 0.039 inch, which is what #14 steel wire is
>when galvanized.---Foam insulation 2 inch thick
>---
>
>
>And then the parts list for the 2.4Ghz antenna
>...
>3 inch by 2 inch welded wire fence (bought locally from Orchard Supply
>Hardware). The wire radius is about 0.031 inch, which is what #16 steel
>wire is when galvanized.--- Foam insulation 1 inch thick
>...
>
> As you can see the loops lengths are the same, 3 inch by 2 inch
>size. The wire radius is reduced from 0.039" to 0.31" for the 2.4Ghz
>antenna, and the reflector distance is doubled.

Nope, that's not the "loops" or what I call the "spider web". The
fence wire is the meterials for the reflector, not the spider web. No
clue why the wire gauge changed. I used both insulating foam board
and 1/4" galvanized wire cloth.

Incidentally, I was wrong about the NEC deck being in wavelengths.
It's in inches, which is not my favorite way of doing it. I have a
version somewhere where I converted it to wavelengths. Digging...

All I could find is the original 1.2Ghz desk. See:
<http://802.11junk.com/jeffl/antennas/Curtain-Quad-13/index.html>

> I can't tell if maybe he has cut out wires on the 1296 antenna
>to double the area, no that would quadruple the area.

Yep. Double the frequency and all the dimensions are half. That
creates an antenna with 1/4th the area.

>This will be my last attempt to understand, so give it one more shot
>to inform me. :-)

Incidentally, when I built the 2.4Ghz version, it resonated too low in frequency. I eventually discovered that my bending fixture (graph paper, plywood board, and plenty of 10 penny nails) resulted in a bit too wide a bend at the corners, thus elongating the elements. The 13 element calculated gain was 16dBi. My measured gain was about 14dBi which isn't too bad considering my marginal method of measurement. Photos when I find where I buried the antenna.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1763. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 14:22:14 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <k3g82713jm227kt3jjcadqmfblp205464e@4ax.com>
Source record: 4314

On Sun, 17 Jul 2011 16:19:33 -0700, "Sal" <sobars@aol.com> wrote:

>
>"John S" <sophi.2@invalid.org> wrote in message
>news:ivvm3rnna1@dont-email.me...
>>
>> Thanks for the info, Sal. I had entertained the thought of signing up.
>> Apparently, it's not worth it.
>>
>> John - KD5YI
>
>I wouldn't say that. I don't know! Give it a try.
>
>Academically, he certainly has credentials. I easily discovered article
>references showing he holds a PhD in Mathematics. He's a current university
>professor and a widely regarded antenna expert.
>
>I think he just doesn't tolerate people who cross him. I can't, in good
>conscience, condemn him outright for that. Maybe he's just over his
>lifetime toleration for the behavior of smart-ass 18-year-olds (and anybody
>else that doesn't fly right).
>
>Sal
>
It is more of a BLOG than a Forum. I have not found anything that
especially interests me yet. That does not keep me from checking in
from time to time.

I doubt there are few of us that don't seem a bit weird to some
people. My guess is that he wants to share his work without having to
give up time to those who just contribute to the noise level.

1764. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 14:58:54 UTC
From: nm5k@wt.net
Message-ID: <2ee4bd48-8fd8-42d1-b9e4-676f716a2526@glegroupsg2000goo.googlegroups.com>
Source record: 4315

On Sunday, July 17, 2011 3:49:46 PM UTC-5, Sal wrote:

>
> OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
>
> "Sal"

Now you see why I will not have anything to do with a
"group" that you must sign up for. Never have, and never will.
Many of them seem to like to play their silly games, have
control over what is posted, banish the hecklers, etc..
No way to live as far as I'm concerned.
And I don't need him to learn about phased broadcast
band antennas. It's not like he invented them or anything.
He's just tinkering with a few, and I presume posting his
results to the few that he deems worthy.. :/

1765. Re: Broadcast Tower Hoogersmilde (Netherlands) down due to fire.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 15:05:50 UTC
From: nm5k@wt.net
Message-ID: <d1f3739f-27c3-42bb-b436-f9585d6e7e25@glegroupsg2000goo.googlegroups.com>
Source record: 4316

On Friday, July 15, 2011 11:01:36 AM UTC-5, Wimpie wrote:
> First there was a fire in the 300m IJsselstein (lopik) tower, some
> hours later there was a fire in the "Smilde" tower (also about
> 300m/980ft).
>
> The construction (Smilde tower) couldn't resist the heat and
> collapsed, see the video.
>
> http://www.youtube.com/watch?v=VdMLiL4vlHc
>
> Now 80% of the Netherlands can't get national radio over the air (as
> the Lopik tower is still inoperative because of investigation).
>

Almost sounds like arson if fire pops up in two of them
hours apart.
Kind of reminds me of one we had fall several years
ago. But it was taller than that one. About a 2000
foot job, and it killed seven people that were assembling
it at the time.
Here is some old video of it.. This is just a few miles
from my house. I can see them from here if no trees are
in the way. There are several tall BC towers out at that
senior road site.
http://www.youtube.com/watch?v=eqygUApfnZg

1766. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 15:10:20 UTC
From: amdx <amdx@knology.net>
Message-ID: <356d5$4e244d6f$4b4c116f$13795@KNOLOGY.NET>
Source record: 4317

On 7/17/2011 8:11 PM, Jeff Liebermann wrote:
> On Sun, 17 Jul 2011 08:59:08 -0500, amdx<amdx@knology.net> wrote:
>
>> Copied and pasted from the Curtain site.
>>
>> 13 element Curtain Quad for 1296MHz described
>>
>> The material list is as follows:
>> ---
>> 3 inch by 2 inch welded wire fence (from Orchard Supply Hardware).
>> The wire radius is about 0.039 inch, which is what #14 steel wire is
>> when galvanized.---Foam insulation 2 inch thick
>> ---
>>
>>
>> And then the parts list for the 2.4Ghz antenna
>> ....
>> 3 inch by 2 inch welded wire fence (bought locally from Orchard Supply
>> Hardware). The wire radius is about 0.031 inch, which is what #16 steel
>> wire is when galvanized.--- Foam insulation 1 inch thick
>> ....
>>
>> As you can see the loops lengths are the same, 3 inch by 2 inch
>> size. The wire radius is reduced from 0.039" to 0.31" for the 2.4Ghz
>> antenna, and the reflector distance is doubled.
>
> Nope, that's not the "loops" or what I call the "spider web". The
> fence wire is the meterials for the reflector, not the spider web. No
> clue why the wire gauge changed. I used both insulating foam board
> and 1/4" galvanized wire cloth.
>
> Incidentally, I was wrong about the NEC deck being in wavelengths.
> It's in inches, which is not my favorite way of doing it. I have a
> version somewhere where I converted it to wavelengths. Digging...
>
> All I could find is the original 1.2Ghz desk. See:
> <http://802.11junk.com/jeffl/antennas/Curtain-Quad-13/index.html>
>
>> I can't tell if maybe he has cut out wires on the 1296 antenna
>> to double the area, no that would quadruple the area.
>
> Yep. Double the frequency and all the dimensions are half. That
> creates an antenna with 1/4th the area.
>

>> This will be my last attempt to understand, so give it one more shot
>> to inform me. :-)
>
> Incidentally, when I built the 2.4Ghz version, it resonated too low in
> frequency. I eventually discovered that my bending fixture (graph
> paper, plywood board, and plenty of 10 penny nails) resulted in a bit
> too wide a bend at the corners, thus elongating the elements. The 13
> element calculated gain was 16dBi. My measured gain was about 14dBi
> which isn't too bad considering my marginal method of measurement.
> Photos when I find where I buried the antenna.
>

Sorry Jeff, I need to try again,
Either I'm doing a very poor job of explaining my lack of understanding
or maybe we are looking at two different pages.
If you look here;
http://home.comcast.net/~ross_anderson/2400MHzAntenna.htm
you will see the FENCE is used as the ANTENNA ELEMENTS and aluminum foil
used as the reflector.
But the fence loops >seem< to me to be the same size for both 1296Mhz
and 2.4Ghz antenna.
Mikek

1767. Re: Broadcast Tower Hoogersmilde (Netherlands) down due to fire.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 16:27:23 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <qfn827h8fqv5mv83gq6hbhd447aq74br1f@4ax.com>
Source record: 4318

On Mon, 18 Jul 2011 08:05:50 -0700 (PDT), nm5k@wt.net wrote:

>Almost sounds like arson if fire pops up in two of them
>hours apart.

Much as I enjoy conspiracy theories, the current guess is overheated
cables:
<http://sw-radio.blogspot.com/2011/07/overheated-cables-thought-to-have.html>

More tower wires, most of which were caused by workmen using a cutting
torch on the monopole, and igniting the polyethylene insulation in the
coax cables:
<http://802.11junk.com/jeffl/SCCARC-talk-2010-06-18/Burning-Towers.htm>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1768. Re: Broadcast Tower Hoogersmilde (Netherlands) down due to fire.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 16:47:39 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b3ec6$4e246306$5355cc82$6088@cache120.multikabel.net>
Source record: 4319

El 18-07-11 17:05, nm5k@wt.net escribiï¿½:
> On Friday, July 15, 2011 11:01:36 AM UTC-5, Wimpie wrote:
>> First there was a fire in the 300m IJsselstein (lopik) tower, some
>> hours later there was a fire in the "Smilde" tower (also about
>> 300m/980ft).
>>
>> The construction (Smilde tower) couldn't resist the heat and
>> collapsed, see the video.
>>
>> http://www.youtube.com/watch?v=VdMLiL4vlHc
>>
>> Now 80% of the Netherlands can't get national radio over the air (as
>> the Lopik tower is still inoperative because of investigation).
>>
>
> Almost sounds like arson if fire pops up in two of them
> hours apart.
> Kind of reminds me of one we had fall several years
> ago. But it was taller than that one. About a 2000
> foot job, and it killed seven people that were assembling
> it at the time.
> Here is some old video of it.. This is just a few miles
> from my house. I can see them from here if no trees are
> in the way. There are several tall BC towers out at that
> senior road site.
> http://www.youtube.com/watch?v=eqygUApfnZg

Hello Mark,

I thought the same, but according to the current info (speculation?),
it wasn't arson.

At this moment there is no info on the Dutch Safety Board's website
(www.onderzoeksraad.nl), so we have to wait for real info.

The Senior Road FM/TV tower;
Really bad that "some" miscalculation resulted in overstress in a
U-bolt with such horrible end-result. There is lots of info on the web
regarding this accident.

Thank you for sharing your info,

Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

PS: I spent lots of hours with FS98 (mostly IFR and misusing jets as gliders).

1769. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 18:15:15 UTC
From: Sal <sobars@aol.com>
Message-ID: <j01t7q$7cj$1@dont-email.me>
Source record: 4320

"W8CCW" <Jferrell13@triad.rr.com> wrote in message
news:k3g82713jm227kt3jjcadqmfblp205464e@4ax.com...

> I doubt there are few of us that don't seem a bit weird to some
> people. My guess is that he wants to share his work without having to
> give up time to those who just contribute to the noise level.
>

Well said.

"Sal"
(KD6VKW)

1770. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 18:20:46 UTC
From: Sal <sobars@aol.com>
Message-ID: <j01ti5$9v4$1@dont-email.me>
Source record: 4321

<nm5k@wt.net> wrote in message
news:2ee4bd48-8fd8-42d1-b9e4-676f716a2526@glegroupsg2000goo.googlegroups.com...

< snip >
> Now you see why I will not have anything to do with a
> "group" that you must sign up for. Never have, and never will.
> Many of them seem to like to play their silly games, have
> control over what is posted, banish the hecklers, etc..
> No way to live as far as I'm concerned.
> And I don't need him to learn about phased broadcast
> band antennas. It's not like he invented them or anything.
> He's just tinkering with a few, and I presume posting his
> results to the few that he deems worthy.. :/

Yup. Such groups are very orderly but sometimes
"free-swinging" is more productive.

"Sal"
(KD6VKW)

1771. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 19:12:43 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j020jb$1st$1@dont-email.me>
Source record: 4322

```
On 7/18/2011 10:10 AM, amdx wrote:
> On 7/17/2011 8:11 PM, Jeff Liebermann wrote:
>> On Sun, 17 Jul 2011 08:59:08 -0500, amdx<amdx@knology.net> wrote:
>>
>>> Copied and pasted from the Curtain site.
>>>
>>> 13 element Curtain Quad for 1296MHz described
>>>
>>> The material list is as follows:
>>> ---------------------------------------------------------------------
>>> 3 inch by 2 inch welded wire fence (from Orchard Supply Hardware).
>>> The wire radius is about 0.039 inch, which is what #14 steel wire is
>>> when galvanized.---Foam insulation 2 inch thick
>>> ---------------------------------------------------------------------
>>>
>>>
>>> And then the parts list for the 2.4Ghz antenna
>>> .....................................................................
>>> 3 inch by 2 inch welded wire fence (bought locally from Orchard Supply
>>> Hardware). The wire radius is about 0.031 inch, which is what #16 steel
>>> wire is when galvanized.--- Foam insulation 1 inch thick
>>> .....................................................................
>>>
>>> As you can see the loops lengths are the same, 3 inch by 2 inch
>>> size. The wire radius is reduced from 0.039" to 0.31" for the 2.4Ghz
>>> antenna, and the reflector distance is doubled.
>>
>> Nope, that's not the "loops" or what I call the "spider web". The
>> fence wire is the meterials for the reflector, not the spider web. No
>> clue why the wire gauge changed. I used both insulating foam board
>> and 1/4" galvanized wire cloth.
>>
>> Incidentally, I was wrong about the NEC deck being in wavelengths.
>> It's in inches, which is not my favorite way of doing it. I have a
>> version somewhere where I converted it to wavelengths. Digging...
>>
>> All I could find is the original 1.2Ghz desk. See:
>> <http://802.11junk.com/jeffl/antennas/Curtain-Quad-13/index.html>
>>
>>> I can't tell if maybe he has cut out wires on the 1296 antenna
>>> to double the area, no that would quadruple the area.
>>
>> Yep. Double the frequency and all the dimensions are half. That
>> creates an antenna with 1/4th the area.
```

>>
>>> This will be my last attempt to understand, so give it one more shot
>>> to inform me. :-)
>>
>> Incidentally, when I built the 2.4Ghz version, it resonated too low in
>> frequency. I eventually discovered that my bending fixture (graph
>> paper, plywood board, and plenty of 10 penny nails) resulted in a bit
>> too wide a bend at the corners, thus elongating the elements. The 13
>> element calculated gain was 16dBi. My measured gain was about 14dBi
>> which isn't too bad considering my marginal method of measurement.
>> Photos when I find where I buried the antenna.
>>
>
> Sorry Jeff, I need to try again,
> Either I'm doing a very poor job of explaining my lack of understanding
> or maybe we are looking at two different pages.
> If you look here;
> http://home.comcast.net/~ross_anderson/2400MHzAntenna.htm
> you will see the FENCE is used as the ANTENNA ELEMENTS and aluminum foil
> used as the reflector.
> But the fence loops >seem< to me to be the same size for both 1296Mhz
> and 2.4Ghz antenna.
> Mikek

I concur with your observation, Mikek. It may be that Jeff has looked only at the first listed reflector which was identical to the antenna itself.

Both the 1296 and 2.4gHz antennas use the same fencing material.

John - KD5YI

1772. Re: Curtain Quad - Real gain or antenna snake oil?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 20:47:05 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <7o59275t7i7hhrrc135d4d31tpicmcrc97@4ax.com>
Source record: 4323

On Mon, 18 Jul 2011 14:12:43 -0500, John S <sophi.2@invalid.org>
wrote:

>> Sorry Jeff, I need to try again,
>> Either I'm doing a very poor job of explaining my lack of understanding
>> or maybe we are looking at two different pages.
>> If you look here;
>> http://home.comcast.net/~ross_anderson/2400MHzAntenna.htm
>> you will see the FENCE is used as the ANTENNA ELEMENTS and aluminum foil
>> used as the reflector.
>> But the fence loops >seem< to me to be the same size for both 1296Mhz
>> and 2.4Ghz antenna.
>> Mikek
>
>I concur with your observation, Mikek. It may be that Jeff has looked
>only at the first listed reflector which was identical to the antenna
>itself.
>
>Both the 1296 and 2.4gHz antennas use the same fencing material.
>John - KD5YI

Nope, my mistake. Brain damage and assumption on my part.

<http://home.comcast.net/~ross_anderson/CurtainQuadFigure11.htm>
<http://home.comcast.net/~ross_anderson/2400MHzAntenna.htm>

I didn't use the recommended fencing material. Instead, I made mine
from some #16 awg solid copper wire, soldering the junctions together.
When I built the 2.4GHz version, I scaled it from the 1.2GHz
dimension, resulting in NOT using the 2x3" fencing material. I then
built it without looking at the original article again. I'll dig
deeper and see if I can find the 2.4GHz antenna and design data.

That brings me back to the original question, which is how can both
antennas be made from the same 2x3" fencing material. I'm not sure
what's happening because the drawings are not fully dimensioned. I
also just noticed that the grid paper shown do not match the
dimensions listed in the NEC deck. Logic (and guesswork) would
suggest that if the 2x3" mesh was used for 2.4GHz, then every other
wire could be used on 1.2GHz, forming a 2x6" mesh. However, I can't
tell from the dimensioning. I'll try to transplant the dimensions to
a common drawing, and see if it can be decoded.

Gone to do some chain sawing. More if I survive.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1773. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 21:07:09 UTC
From: amdx <amdx@knology.net>
Message-ID: <a7862$4e24a07a$45497907$15280@KNOLOGY.NET>
Source record: 4324

On 7/18/2011 9:58 AM, nm5k@wt.net wrote:
> On Sunday, July 17, 2011 3:49:46 PM UTC-5, Sal wrote:
>
>>
>> OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
>>
>> "Sal"
>
> Now you see why I will not have anything to do with a
> "group" that you must sign up for. Never have, and never will.

In trying to avoid such a simple request, you deny yourself
a great many sites.

> Many of them seem to like to play their silly games, have
> control over what is posted, banish the hecklers, etc..
> No way to live as far as I'm concerned.

I don't see this as reason to deny yourself access to
hundreds or thousands of sites that have great information.

> And I don't need him to learn about phased broadcast
> band antennas.

I want to learn, do you have any sites with good broadcast band antennas.

It's not like he invented them or anything.

He's not claiming invention, but he has made a nice
contribution to the hobby.

> He's just tinkering with a few, and I presume posting his
> results to the few that he deems worthy.. :/
>

Tinkering seems a little insincere, I'm sure he ha smany hundreds
of hours into his research.

Please post any websites you have regarding broadcast band antennas.
I have not found much other than resonant loops and beverages.
Mikek

1774. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-18 22:43:49 UTC
From: nm5k@wt.net
Message-ID: <b0a4b660-7348-472e-be58-96ca3621c1e8@glegroupsg2000goo.googlegroups.com>
Source record: 4325

On Monday, July 18, 2011 4:07:09 PM UTC-5, amdx wrote:
> On 7/18/2011 9:58 AM, nm...@wt.net wrote:
> > On Sunday, July 17, 2011 3:49:46 PM UTC-5, Sal wrote:
> >
> >>
> >> OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
> >>
> >> "Sal"
> >
> > Now you see why I will not have anything to do with a
> > "group" that you must sign up for. Never have, and never will.
>
> In trying to avoid such a simple request, you deny yourself
> a great many sites.

I'll survive.. :/

>
> > Many of them seem to like to play their silly games, have
> > control over what is posted, banish the hecklers, etc..
> > No way to live as far as I'm concerned.
>
> I don't see this as reason to deny yourself access to
> hundreds or thousands of sites that have great information.

Who says it's all great information? Some may be. Some
may not. I'm not going to jump through hoops to find out
one way or the other.

>
> > And I don't need him to learn about phased broadcast
> > band antennas.
>
> I want to learn, do you have any sites with good broadcast band antennas.

Well...Google is your friend.. He's not the only one to run
those ya know..
http://search.yahoo.com/search;_ylt=AuKAbH0VcbrAoAiR3zgQWm6bvZx4?p=quad+delta+flag+array&toggle=1&cop=mss&ei=UTF-8&fr=yfp-t-701

I'm sure I can gather some usable info without having
to jump through a hoop.

>
> It's not like he invented them or anything.
>

> He's not claiming invention, but he has made a nice
> contribution to the hobby.

No problem with that. But I'm not going to be a
spectator if I have to jump through hoops, be censored,
moderated, vetted, etc, ad nausium.. :+

>
> > He's just tinkering with a few, and I presume posting his
> > results to the few that he deems worthy.. :/
> >
>
> Tinkering seems a little insincere, I'm sure he ha smany hundreds
> of hours into his research.

He probably does. But what does that have to do with me?

>
> Please post any websites you have regarding broadcast band antennas.
> I have not found much other than resonant loops and beverages.
> Mikek

Already gave one example above. I think W8JI was using
some sort of steerable verticals, and he might have some
info on his site. As I recall, they were pretty short,
and maybe not even resonant, but I don't recall how he
was steering them.
There is tons of stuff out there.. And there is always
that source many seem to ignore these days. Books.

Myself, I happen to like loops.. I'm more interested in
a good null, than I am a really directional pattern like a
flashlight. I don't have the room to run a decent beverage
here. I can do it at my dirt patch out in the sticks, but
I've never got around to stringing the wire up.
I intend to do it one of these days just to give em a try.
Anyway, I've been fairly satisfied just using the various
loops I have for general AM-BC use.
If I decide to build something a tad more exotic, I'll
dig up the info, and I won't be jumping through hoops to
get it. Plenty of other flag array users out there.
No need for me to bother Dallas about it.

1775. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 00:20:29 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j02ikd$v3j$1@news.jpl.nasa.gov>
Source record: 4326

On 7/14/2011 11:20 PM, Richard Clark wrote:
> On Thu, 14 Jul 2011 19:31:17 -0500, amdx<amdx@knology.net> wrote:
>
>> Sounds like you didn't look at the site so "what is left unsaid."
>
> Hi Mike,
>
> As I said, nothing there but a vague suggestion of the topic heavily
> cloaked in an admonition.
>
>> Yes, I'm looking a steerable receive only arrays for the AM broadcast
>> band. Myself, I want one that will fit on a 150ft lot.
>
> Is that 150' on a side? 150' long?
>
> There are any number of ways to construct variable delay lines. A
> little bit of computer control will pull their outputs together to
> form beam steering.

For receive only, and moderate bandwidth, then digitizing the multiple antennas and doing the phasing in software is probably the easiest approach. Essentially infinite variability, you get "true time delay" as opposed to phasing (the latter is inherently narrower band, although for AM BC band, it might not make any difference.. 150 ft is a tiny fraction of a wavelength).

>
> Planting the antennas is simple and allows for testing of any of those
> many ways to construct variable delay lines. Those designs themselves
> have various trade-offs for issues you need to prioritize and
> pronounce. The antennas don't need to be in any particular, regular
> pattern as that would be accommodated by computer alignment.
>
> If you choose to go manual steering, with analog variable delay line
> designs; then, yes, having a regular pattern of element layout would
> reduce complexity.
>
> How many antenna elements? At least three, I would suspect. From
> there on it is a matter of how well you can resolve the various delay
> angles for steering a broad beam angle. Increase the number of
> elements and the beam angle gets progressively tighter. You don't say
> how much directionality you want, but it will be intimately correlated
> with this count.

In general, you can place N-1 nulls with an array of N antennas. Broad nulls (in angular extent) are done by stacking multiple narrow nulls. For AM BC band (which is like 160m ham band), gain isn't a big deal, you'll be interference and atmospheric noise limited.

>
> The delay lines will have to be tolerant of mutual coupling - better
> yet, they should not perturb the existing mutual coupling at all. Good
> isolation amplifiers between each element and its delay line before
> going to a summing amplifier would seem a solution. Tracking between
> delay lines will affect beam width. More elements will require
> tighter tracking.

The usual scheme is to use a lossy short untuned antenna and a FET pre-amp. There are several nice designs out there, or you can buy them off the shelf.
http://www.amrad.org/projects/lf/actant/ is an example

> In the end, they all comprise the same fundamentals. If you cannot
> support a symmetrical design, that is your primary limiting factor. If
> you can digitize the delay lines, then symmetry can be synthesized and
> the antennas can be placed physically anywhere limited only by the
> resolution of digital sampling rate.

And the dynamic range of the amplifier/digitizer.

>
> 73's
> Richard Clark, KB7QHC

1776. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 01:50:45 UTC
From: amdx <amdx@knology.net>
Message-ID: <4000d$4e24e388$18ec6dd7$6903@KNOLOGY.NET>
Source record: 4327

On 7/18/2011 5:43 PM, nm5k@wt.net wrote:
> On Monday, July 18, 2011 4:07:09 PM UTC-5, amdx wrote:
>> On 7/18/2011 9:58 AM, nm...@wt.net wrote:
>>> On Sunday, July 17, 2011 3:49:46 PM UTC-5, Sal wrote:
>>>
>>>>
>>>> OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
>>>>
>>>> "Sal"
>>>
>>> Now you see why I will not have anything to do with a
>>> "group" that you must sign up for. Never have, and never will.
>>
>> In trying to avoid such a simple request, you deny yourself
>> a great many sites.
>
> I'll survive.. :/
>
>>
>>> Many of them seem to like to play their silly games, have
>>> control over what is posted, banish the hecklers, etc..
>>> No way to live as far as I'm concerned.
>>
>> I don't see this as reason to deny yourself access to
>> hundreds or thousands of sites that have great information.
>
> Who says it's all great information? Some may be. Some
> may not. I'm not going to jump through hoops to find out
> one way or the other.
>
>>
>>> And I don't need him to learn about phased broadcast
>>> band antennas.
>>
>> I want to learn, do you have any sites with good broadcast band antennas.
>
> Well...Google is your friend.. He's not the only one to run
> those ya know..
> http://search.yahoo.com/search;_ylt=AuKAbH0VcbrAoAiR3zgQWm6bvZx4?p=quad+delta+flag+array
&toggle=1&cop=mss&ei=UTF-8&fr=yfp-t-701
>

Interesting, out of the first 11 hits 9 of them are antennas from
Dallas's site, One is a site about 160 meter antennas and one is about

math (square arrays).

> I'm sure I can gather some usable info without having
> to jump through a hoop.
>
I still want to learn, do you have a specific site with a good
broadcast band receiving antenna. Preferably with a null I can rotate
and that will fit in 150 ft.
Thanks, Mikek

1777. FS Heath HM-2102 VHF SWR power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 03:32:22 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <j02ts6mue1@dont-email.me>
Source record: 4328

I have a Heath HM-2102 VHF SWR power meter 50-160 MHz
0-25 and 0-250 watts. Excellent condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

1778. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 12:36:50 UTC
From: Restek <metre@made.com>
Message-ID: <c6ua27l51u8ao8nhp6ed0q8h68q63obje9@4ax.com>
Source record: 4329

On Sun, 17 Jul 2011 13:49:46 -0700, "Sal" <sobars@aol.com> wrote:

>
>"amdx" <amdx@knology.net> wrote in message
>news:deee1$4e22de0d$18ec6dd7$22883@KNOLOGY.NET...
>
>
>< snip >
>
>> This all seems odd to me.
>> I had no problem getting admitted, he works with several hams regarding
>> his antenna systems, so it's not about hams.
>> I think he has some great research using single, dual and quad phased
>> Flag or Delta antennas. There's also info on building a circuit for
>> adjustable phasing of two antennas.
>> So get another email address and just say you have an interest in
>> improving your AM radio reception.
>>
>> Mikek
>
>But, yet, I got turned down again, even though I fully complied with his
>directions. The problem is that I politely added my opinion that his
>methodology for rejecting his group's applicants had a flaw in my case. (He
>had earlier explained some of it to me in a thoughtful and candid private
>email.) Obviously, I should have kept my opinion to myself. I live and
>learn.
>
>He responded to me with a curt one-line private email saying that the flaw
>was in _my logic_. From that, coupled with his third rejection two minutes
>later, I conclude that the mere mention of anything negative is an instant
>deal-breaker. He had earlier described trouble he'd had in his group with
>people he termed "bad boys." It's much easier to be dubbed one of his "bad
>boys" than I would have guessed. Wow!
>
>Yes, I could try to trick him with another email address; however, since I'm
>not welcome at his front door, why risk the humiliation if he catches me
>prying open a back window? I'm already somewhat annoyed at myself for this
>missed opportunity. Why make it worse?
>
>OK, so the final score is Dallas 3, Me 0. Game over. *sigh*
>

Ya shoulda just kept your mouth shut rather than call him out on his "flaw"
telling him you you don't respect him and just have to have the last word.
His not allowing members posts should have given you a clue he is ultra

anal. The outcome was predictable. Ya shoulda kept your mouth shut.

Oh yeah, I got in too.

1779. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 19:00:53 UTC
From: Loopy
Message-ID: <efva27ln31c7g6slbn250660cl679p2fi6@4ax.com>
Source record: 4330

On Mon, 18 Jul 2011 16:07:09 -0500, amdx <amdx@knology.net> wrote:

>Please post any websites you have regarding broadcast band antennas.
>I have not found much other than resonant loops and beverages.
> Mikek
>
>
Here are 2 good ones that I frequent and their email addresses.
1) SkyWires in yahoogroups <SkyWires@yahoogroups.com>

2) Loopantennas in yahoogroups <loopantennas@yahoogroups.com>

You can also do a search from the Yahoogroups find a group pages for "Loop antennas" "BCB" "AM radio" & "MW" to name a few.

1780. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 19:12:52 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j04kvkkhm1@news.jpl.nasa.gov>
Source record: 4331

On 7/18/2011 6:50 PM, amdx wrote:

>>
> I still want to learn, do you have a specific site with a good broadcast
> band receiving antenna. Preferably with a null I can rotate
> and that will fit in 150 ft.

how deep a null, how narrow/wide?

One of the noise canceling boxes with two antennas will do quite well.
Timewave ANC-4 is one possibility
MFJ 1026 is another.
DX engineering NCC-1

For BC band, almost any antenna will work.

If you want physically small you could use any of the active antennas..
You could use a MFJ1020C,1022,1024, Ameco TPA, DX Engineering ARAV3-1P, etc.
The MFJ 1026 canceller includes an antenna.

A whole bunch of kits out there..
Ramsey AA7B, the Amrad antenna, ..

If you want to get more sophisticated, some sort of software receiver
might be better approach (you could use more than 2 antennas, for
instance). There's not much off the shelf, but if you're ambitious you
might look at K1LT's array using softrock receivers.http://www.k1lt.com/

1781. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 20:55:42 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnj2brqe.24lq.knock_yourself_out@shell.config.com>
Source record: 4332

On Tue, 19 Jul 2011 12:12:52 -0700, Jim Lux wrote:
> On 7/18/2011 6:50 PM, amdx wrote:
>
>> I still want to learn, do you have a specific site with a good broadcast
>> band receiving antenna. Preferably with a null I can rotate
>> and that will fit in 150 ft.
>
> how deep a null, how narrow/wide?
>
> One of the noise canceling boxes with two antennas will do quite well.
> Timewave ANC-4 is one possibility
> MFJ 1026 is another.
> DX engineering NCC-1

In BCB SWLing you want the null(s) deep (and steerable)
to kill the strong, unwanted station.

Jonesy

1782. Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 22:21:09 UTC
From: Jay Scherberth <jscherberth@gmail.com>
Message-ID: <d2f2eb29-1050-4648-a403-2dbba299e7af@j37g2000prh.googlegroups.com>
Source record: 4333

Hi,

Just getting back on the air after many years of silence and I find myself struggling over the choice of antennas. I need something that I can easily raise and lower (get out of site due to CCR rules) so we're talking about a compromise. I do have room for a couple of radials (max 30 ft) as long as they can buried in the ground 180 degrees apart (not ideal). The antenna will have to be installed within about 4 feet from the side of my house. I was hoping to find a self supporting vertical betwwen 30 and 40 ft hight that could pivit at the base (might need to purchase that separately) so it can be laid down flat on the ground next to the house when not in use. I plan on purchasing an auto tuner if necessary. The vertical can have no physical radials on the antenna itself.

And by the way, I live in the hills above Henderson, NV so the quality of the ground isn't good; lots of rock and hard clay with poor drainage.

Purchase price up to $400.00 OK. Any ideas of what might work in my situation?

Many thanks in advance!

1783. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 22:47:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <441c2798q2rsa5gdqgjs8mope13b2v0s4l@4ax.com>
Source record: 4334

On 19 Jul 2011 20:55:42 GMT, Allodoxaphobia
<knock_yourself_out@example.net> wrote:

>In BCB SWLing you want the null(s) deep (and steerable)
>to kill the strong, unwanted station.

This characteristic demands the SAME considerations as required for a sharp beam of high directionality.

If we were to select the antenna that matches your quoted specs above, it would be called the Cardiod (example available in EZNEC). Problem there is the 30dB null isn't steerable (not enough elements). And it is large (too large for the back yard):
1. Too tall for most to build.
2. Elements too far apart (out of necessity for, dare I say it? Phasing).

As it is designed as a transmit antenna, too tall is quickly dismissed. You can use as short of one as proves useful.

The first element, now being shorter, also allows us to add any number of shorter elements in an array around (or mixed in with) the first. This brings steerability. The more elements, the better angle resolution and null depth control.

You can pull the additional elements (if only one more to build a proof of concept Cardiod) closer to the first (dismissing the large spacing objection), and introduce the necessary time/phase control through:
1. cabling;
2. analog delay circuits;
3. digital delay circuits.

Moving to a digital solution controls all variables.

If none of this is covered in the "Dallas Files," it would be best to leave them in the File Cabinet. Jim has provided adequate links to fill in the gaps and no one was injured in the process of obtaining the information.

73's
Richard Clark, KB7QHC

1784. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 22:53:57 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <5hehf8-d2r.ln1@mail.specsol.com>
Source record: 4337

Jay Scherberth <jscherberth@gmail.com> wrote:
> Hi,
>
> Just getting back on the air after many years of silence and I find
> myself struggling over the choice of antennas. I need something that I
> can easily raise and lower (get out of site due to CCR rules) so we're
> talking about a compromise. I do have room for a couple of radials
> (max 30 ft) as long as they can buried in the ground 180 degrees apart
> (not ideal). The antenna will have to be installed within about 4 feet
> from the side of my house. I was hoping to find a self supporting
> vertical betwwen 30 and 40 ft hight that could pivit at the base
> (might need to purchase that separately) so it can be laid down flat
> on the ground next to the house when not in use. I plan on purchasing
> an auto tuner if necessary. The vertical can have no physical radials
> on the antenna itself.
>
> And by the way, I live in the hills above Henderson, NV so the quality
> of the ground isn't good; lots of rock and hard clay with poor
> drainage.
>
> Purchase price up to $400.00 OK. Any ideas of what might work in my
> situation?
>
> Many thanks in advance!

Some thoughts on the subject...

If you are going to have an auto tuner, the antenna itself need not be
anything more than a piece of tubing.

I have a 34 ft piece of tubing with a SGC-237 and that tuned 160 (kind of
marginally) through 10 with no problem.

I added a relay controlled loading coil to switch in for 160/80 and now
it tunes 80 faster and 160 no problem.

If your main interest is the lower bands, just make the tubing as long as
you can get away with and let the auto tuner deal with it.

If it is next to the house, drive in as much ground rod as you can and use
a garden drip system along with some flowers or whatnot around the base of
it.

Whatever radials you can install are better than nothing.

--
Jim Pennino

Remove .spam.sux to reply.

1785. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 22:55:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fe2c27tulos14v1enr83kld6nha62amtvd@4ax.com>
Source record: 4335

On Tue, 19 Jul 2011 15:21:09 -0700 (PDT), Jay Scherberth
<jscherberth@gmail.com> wrote:

>Purchase price up to $400.00 OK. Any ideas of what might work in my
>situation?

Hi Jay,

Google for "Sleeve Dipole" (a vertical) which consists of staged
tubing, the upper element insulated from the lower. Do not connect
the lower element to ground. Thread the driveline coax up inside the
lower element and connect the shield to the top inside of the lower
element. Connect the coax inner lead to the bottom of the upper
element.

As I said, google for images as this description may frustrate you.

Invest the rest of your money (after buying sufficient quantity of
tubing) in your tuner. You may still have a lot left over.

73's
Richard Clark, KB7QHC

1786. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-19 22:58:28 UTC
From: Sal <sobars@aol.com>
Message-ID: <j0526t$p28$1@dont-email.me>
Source record: 4336

"Restek" <metre@made.com> wrote in message
news:c6ua27l51u8ao8nhp6ed0q8h68q63obje9@4ax.com...

< snip >
>
> Ya shoulda just kept your mouth shut rather than call him out on his
> "flaw"
> telling him you you don't respect him and just have to have the last word.
> His not allowing members posts should have given you a clue he is ultra
> anal. The outcome was predictable. Ya shoulda kept your mouth shut.
>
> Oh yeah, I got in too.

Noted.

"Sal"

1787. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 00:45:01 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j058ed$q9p$1@news.jpl.nasa.gov>
Source record: 4339

On 7/19/2011 3:47 PM, Richard Clark wrote:
> On 19 Jul 2011 20:55:42 GMT, Allodoxaphobia
> <knock_yourself_out@example.net> wrote:
>
>> In BCB SWLing you want the null(s) deep (and steerable)
>> to kill the strong, unwanted station.
>
> This characteristic demands the SAME considerations as required for a
> sharp beam of high directionality.

Actually, no.
You can form a deep null with a much simpler antenna system than for high directionality.

All you need is to "cancel" the signal from the undesired direction.

If you had two verticals spaced some distance apart, fed by equal length transmission lines, and one is polarity reversed, you get a fairly sharp null on the line perpendicular to the line between the antennas.
(e.g. a signal coming from broadside will exactly cancel in the combining)

A loopstick antenna on a ferrite core or a multiturn loop, as popular in direction finding, is another example with a fairly sharp null.

Now.. if you want one null, and one null only, that gets a bit trickier in a small space. I don't know that you can do it with only two elements (haven't thought about it much).

And if you want to steer the null.

One traditional approach in direction finding is to use a goniometer or an adcock array.

>
> If we were to select the antenna that matches your quoted specs above,
> it would be called the Cardiod (example available in EZNEC). Problem
> there is the 30dB null isn't steerable (not enough elements). And it
> is large (too large for the back yard):
> 1. Too tall for most to build.
> 2. Elements too far apart (out of necessity for, dare I say it?
> Phasing).

that's the "one null and one null only" problem.

1788. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 00:51:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j058pvqek1@news.jpl.nasa.gov>
Source record: 4340

On 7/19/2011 3:21 PM, Jay Scherberth wrote:
> Hi,
>
> Just getting back on the air after many years of silence and I find
> myself struggling over the choice of antennas. I need something that I
> can easily raise and lower (get out of site due to CCR rules) so we're
> talking about a compromise. I do have room for a couple of radials
> (max 30 ft) as long as they can buried in the ground 180 degrees apart
> (not ideal). The antenna will have to be installed within about 4 feet
> from the side of my house. I was hoping to find a self supporting
> vertical betwwen 30 and 40 ft hight that could pivit at the base
> (might need to purchase that separately) so it can be laid down flat
> on the ground next to the house when not in use.

Pivoting is easy. You can buy a nifty thing from a variety of
suppliers, or you can use a couple pieces of 2x4 and a gate hinge.

Or, if you're stronger.. you can use the removable tetherball pole
approach: a pipe in the ground as a socket, into which you plug the
antenna pole.

A gate hinge with a removable pin (a standard door hinge works, too) is
nice, because then you can actually disconnect the antenna and carry it
away if you like.

You could probably adapt a "swing away" bike rack too.

I plan on purchasing
> an auto tuner if necessary. The vertical can have no physical radials
> on the antenna itself.

Autotuner and vertical is a great combination (if the tuner is at the
base of the antenna, particularly)

>
> And by the way, I live in the hills above Henderson, NV so the quality
> of the ground isn't good; lots of rock and hard clay with poor
> drainage.

The only problem with "long antenna on high bands" is that the pattern
gets kind of wonky. If you care about this, then something like a 6BTV
trapped vertical might be a better solution. Still with the autotuner
(because it means you don't have to worry about the adjusting the
antenna or it changing as the soil moisture changes, etc.)

>
> Purchase price up to $400.00 OK. Any ideas of what might work in my
> situation?

Galvanized Fence Top Rail is a very cheap pipe available in 20 foot lengths.

EMT (thin wall conduit) is another.

If it's next to something (the house?).. how tall is the house? Can you
just suspend a wire?

That should get you started...

1789. SEXY VIDEOS AND HOT PHOTOS FREE SERVICE

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 00:51:39 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <58a871a9-e5d4-4dfa-acec-722b0bfafb5e@a2g2000prf.googlegroups.com>
Source record: 4338

VERY VERY VERY HOT HOT HOT ONLY HOT
http://acresesandmodels.blogspot.com/2011/06/real-kiss-hot-videos.html

HOT HOT LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/hot-for-youth.html
SUPER HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-101.html
YOUTH HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-lip-kiss-12.html
ONLY HOT HOT
http://hotvideosfreesee.blogspot.com/2010/06/supr-hot-never-seen.html
SUPER HOT NEVER SEEN
http://hotvideosfreesee.blogspot.com/2010/06/supe-r-hot-kiss-op.html
HEROINE LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/kajal-best-lip-kiss.html

for mopre hot videos
http://allvideosforyouth.blogspot.com/2010/08/super-hot-lip-kiss.html

jobs
http://alljobsaywhere.blogspot.com/

games

GAME 1
http://freeonlingamesplay.blogspot.com/2010/08/game-1.html
GAME 2
http://freeonlingamesplay.blogspot.com/2010/08/game-2.html

mobile

mobile games free download
http://mobileallinforation.blogspot.com/2010/08/mobile-games-free-download.html

mobile ringtones free download
http://mobileallinforation.blogspot.com/2010/08/mobile-ringtones-free-download.html

1790. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 02:12:17 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <BdydncYXubMdpLvTnZ2dnUVZ_tWdnZ2d@posted.localnet>
Source record: 4341

Richard, isn't this pretty well what the GAP antenna does ??

Jim K4PYT

Hi Jay,

Google for "Sleeve Dipole" (a vertical) which consists of staged tubing, the upper element insulated from the lower. Do not connect the lower element to ground. Thread the driveline coax up inside the lower element and connect the shield to the top inside of the lower element. Connect the coax inner lead to the bottom of the upper element.

As I said, google for images as this description may frustrate you.

Invest the rest of your money (after buying sufficient quantity of tubing) in your tuner. You may still have a lot left over.

73's
Richard Clark, KB7QHC

1791. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 03:08:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dngc27pmah8a20npfpfe18g9hl0r2uhmob@4ax.com>
Source record: 4342

On Tue, 19 Jul 2011 17:45:01 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>On 7/19/2011 3:47 PM, Richard Clark wrote:
>> On 19 Jul 2011 20:55:42 GMT, Allodoxaphobia
>> <knock_yourself_out@example.net> wrote:
>>
>>> In BCB SWLing you want the null(s) deep (and steerable)
>>> to kill the strong, unwanted station.
>>
>> This characteristic demands the SAME considerations as required for a
>> sharp beam of high directionality.
>
>
>Actually, no.
>You can form a deep null with a much simpler antenna system than for
>high directionality.

Simpler does not invalidate SAME consideration.

>All you need is to "cancel" the signal from the undesired direction.
>
>If you had two verticals spaced some distance apart, fed by equal length
>transmission lines, and one is polarity reversed, you get a fairly sharp
>null on the line perpendicular to the line between the antennas.
>(e.g. a signal coming from broadside will exactly cancel in the combining)

Hence my referenced Cardiod antenna available for modeling with EZNEC.

>A loopstick antenna on a ferrite core or a multiturn loop, as popular in
>direction finding, is another example with a fairly sharp null.

Mike has explicitly rejected loop solutions.

>Now.. if you want one null, and one null only, that gets a bit trickier
>in a small space. I don't know that you can do it with only two
>elements (haven't thought about it much).
>
>And if you want to steer the null.
>
>One traditional approach in direction finding is to use a goniometer or
>an adcock array.

Something I've already offered (Bellini Tosi Antenna, as well as
Wullenweber) - and has been rejected/ignored. Repetition doesn't seem
to stand much chance against the ongoing cult examination in trying to
parse the entrance qualifications for the Dallas Files.

>>
>> If we were to select the antenna that matches your quoted specs above,
>> it would be called the Cardiod (example available in EZNEC). Problem
>> there is the 30dB null isn't steerable (not enough elements). And it
>> is large (too large for the back yard):
>> 1. Too tall for most to build.
>> 2. Elements too far apart (out of necessity for, dare I say it?
>> Phasing).
>
>that's the "one null and one null only" problem.

Which loops (as in recurse, not a pun) us back to the top.

73's
Richard Clark, KB7QHC

1792. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 03:10:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qlhc275m29fak7v77cpu9fhl3s3nodnn4r@4ax.com>
Source record: 4343

On Tue, 19 Jul 2011 22:12:17 -0400, "James" <jnipperxxx@nospamfdn.com>
wrote:

>Richard, isn't this pretty well what the GAP antenna does ??

Hi James,

Yes, in large degree given my experience with the Gap Eagle. I figure
it would draw more than the usual attention, and become a target for
the covenants, deeds, and restrictions.

73's
Richard Clark, KB7QHC

1793. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 03:27:34 UTC
From: Jay Scherberth <jscherberth@gmail.com>
Message-ID: <79408823-ddcf-43f8-872c-876cf6ae7285@g3g2000prf.googlegroups.com>
Source record: 4345

On Jul 19, 5:51 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> On 7/19/2011 3:21 PM, Jay Scherberth wrote:
>
> > Hi,
>
> > Just getting back on the air after many years of silence and I find
> > myself struggling over the choice of antennas. I need something that I
> > can easily raise and lower (get out of site due to CCR rules) so we're
> > talking about a compromise. I do have room for a couple of radials
> > (max 30 ft) as long as they can buried in the ground 180 degrees apart
> > (not ideal). The antenna will have to be installed within about 4 feet
> > from the side of my house. I was hoping to find a self supporting
> > vertical betwwen 30 and 40 ft hight that could pivit at the base
> > (might need to purchase that separately) so it can be laid down flat
> > on the ground next to the house when not in use.
>
> Pivoting is easy. You can buy a nifty thing from a variety of
> suppliers, or you can use a couple pieces of 2x4 and a gate hinge.
>
> Or, if you're stronger.. you can use the removable tetherball pole
> approach: a pipe in the ground as a socket, into which you plug the
> antenna pole.
>
> A gate hinge with a removable pin (a standard door hinge works, too) is
> nice, because then you can actually disconnect the antenna and carry it
> away if you like.
>
> You could probably adapt a "swing away" bike rack too.
>
>   I plan on purchasing
>
> > an auto tuner if necessary. The vertical can have no physical radials
> > on the antenna itself.
>
> Autotuner and vertical is a great combination (if the tuner is at the
> base of the antenna, particularly)
>
>
>
> > And by the way, I live in the hills above Henderson, NV so the quality
> > of the ground isn't good; lots of rock and hard clay with poor
> > drainage.
>

> The only problem with "long antenna on high bands" is that the pattern
> gets kind of wonky. If you care about this, then something like a 6BTV
> trapped vertical might be a better solution. Still with the autotuner
> (because it means you don't have to worry about the adjusting the
> antenna or it changing as the soil moisture changes, etc.)
>
>
>
> > Purchase price up to $400.00 OK. Any ideas of what might work in my
> > situation?
>
> Galvanized Fence Top Rail is a very cheap pipe available in 20 foot lengths.
>
> EMT (thin wall conduit) is another.
>
> If it's next to something (the house?).. how tall is the house? Can you
> just suspend a wire?
>
> That should get you started...

The antenna would be about 4 feet away from the house. The house is 20 ft high at the peak of the roof (single story). The roof is concrete tile. I've looked into suspending a wire from a telescopic pole but it seems like it would be a little cumbersome to raise and lower. I've looked at suspending a long wire between front and back yard trees but that is a little more permanent and the HOA could bust me if they saw it. This is why I'm thinking a vertical would be less visible, easier to setup and take down, and has a fairly small wind load. I do favor 20 - 10 meter bands so that might be a prob elm for the design I'm considering. I love the fact that cheap, small diameter pipe can work as well as a commercial product. Thanks for that info!

1794. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 03:27:56 UTC
From: Sal <sobars@aol.com>
Message-ID: <j05i07dks1@dont-email.me>
Source record: 4344

"Richard Clark" <kb7qhc@comcast.net> wrote in message

> Google for "Sleeve Dipole" (a vertical) which consists of staged
> tubing, the upper element insulated from the lower. Do not connect
> the lower element to ground. Thread the driveline coax up inside the
> lower element and connect the shield to the top inside of the lower
> element. Connect the coax inner lead to the bottom of the upper
> element.
>
> As I said, google for images as this description may frustrate you.
>
> Invest the rest of your money (after buying sufficient quantity of
> tubing) in your tuner. You may still have a lot left over.
>
> 73's
> Richard Clark, KB7QHC

One of these for 10m was the first HF antenna I ever built. I wish I had known then about decoupling the feed line, as I never could get repeatable VSWR data, possibly due to common mode current. Maybe I'll rebuild it and try again with a suitable choke.

I read about the sleeve dipole before I built it and I will pass on a caution: The end where the cable comes out is a high voltage point (expected for the ends of dipoles); higher powers may punch through the coax outer jacket to the coax shield. I use a piece of PVC plumbing pipe as additional separation inside the lower element and never had an issue.

"Sal"

Happy building.

1795. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 03:28:54 UTC
From: Jay Scherberth <jscherberth@gmail.com>
Message-ID: <85fe238c-04b7-43e6-83b6-3efb2d1a9e2b@m3g2000pre.googlegroups.com>
Source record: 4346

On Jul 19, 3:55 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 19 Jul 2011 15:21:09 -0700 (PDT), Jay Scherberth
>
> <jscherbe...@gmail.com> wrote:
> >Purchase price up to $400.00 OK. Any ideas of what might work in my
> >situation?
>
> Hi Jay,
>
> Google for "Sleeve Dipole" (a vertical) which consists of staged
> tubing, the upper element insulated from the lower. Do not connect
> the lower element to ground. Thread the driveline coax up inside the
> lower element and connect the shield to the top inside of the lower
> element. Connect the coax inner lead to the bottom of the upper
> element.
>
> As I said, google for images as this description may frustrate you.
>
> Invest the rest of your money (after buying sufficient quantity of
> tubing) in your tuner. You may still have a lot left over.
>
> 73's
> Richard Clark, KB7QHC

Richard - Is there such a thing as a multi-band HF sleeve dipole or is
this more of a VHF/UHF solution?

1796. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 03:41:16 UTC
From: Jay Scherberth <jscherberth@gmail.com>
Message-ID: <3ec2f68f-f977-4909-b841-abaad97f3dfb@j9g2000prj.googlegroups.com>
Source record: 4347

On Jul 19, 3:53 pm, j...@specsol.spam.sux.com wrote:
> Jay Scherberth <jscherbe...@gmail.com> wrote:
> > Hi,
>
> > Just getting back on the air after many years of silence and I find
> > myself struggling over the choice of antennas. I need something that I
> > can easily raise and lower (get out of site due to CCR rules) so we're
> > talking about a compromise. I do have room for a couple of radials
> > (max 30 ft) as long as they can buried in the ground 180 degrees apart
> > (not ideal). The antenna will have to be installed within about 4 feet
> > from the side of my house. I was hoping to find a self supporting
> > vertical betwwen 30 and 40 ft hight that could pivit at the base
> > (might need to purchase that separately) so it can be laid down flat
> > on the ground next to the house when not in use. I plan on purchasing
> > an auto tuner if necessary. The vertical can have no physical radials
> > on the antenna itself.
>
> > And by the way, I live in the hills above Henderson, NV so the quality
> > of the ground isn't good; lots of rock and hard clay with poor
> > drainage.
>
> > Purchase price up to $400.00 OK. Any ideas of what might work in my
> > situation?
>
> > Many thanks in advance!
>
> Some thoughts on the subject...
>
> If you are going to have an auto tuner, the antenna itself need not be
> anything more than a piece of tubing.
>
> I have a 34 ft piece of tubing with a SGC-237 and that tuned 160 (kind of
> marginally) through 10 with no problem.
>
> I added a relay controlled loading coil to switch in for 160/80 and now
> it tunes 80 faster and 160 no problem.
>
> If your main interest is the lower bands, just make the tubing as long as
> you can get away with and let the auto tuner deal with it.
>
> If it is next to the house, drive in as much ground rod as you can and use
> a garden drip system along with some flowers or whatnot around the base of
> it.

>
> Whatever radials you can install are better than nothing.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

Jim - You've given me new hope! How significant is the length and depth of the radials? I probably have about 30 feet each way along the side of the house. Are you suggesting a drip system around the ground rod to improve the quality of the ground or for decorative reasons or both?

1797. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 05:29:15 UTC
From: Howard K0ACF <howardk0acf@knology.net>
Message-ID: <8790b$4e266841$d8106a72$8007@KNOLOGY.NET>
Source record: 4348

How about a flagpole vertical. There have been many write ups about them. I used to live in Las Vegas by Sam's Town & have seen a few installed & you won't know its a Ham Ant. Google Flagpole Antenna. Don't forget to put the flag up...Howard K0ACF
"Jay Scherberth" <jscherberth@gmail.com> wrote in message news:d2f2eb29-1050-4648-a403-2dbba299e7af@j37g2000prh.googlegroups.com...
> Hi,
>
> Just getting back on the air after many years of silence and I find
> myself struggling over the choice of antennas. I need something that I
> can easily raise and lower (get out of site due to CCR rules) so we're
> talking about a compromise. I do have room for a couple of radials
> (max 30 ft) as long as they can buried in the ground 180 degrees apart
> (not ideal). The antenna will have to be installed within about 4 feet
> from the side of my house. I was hoping to find a self supporting
> vertical betwwen 30 and 40 ft hight that could pivit at the base
> (might need to purchase that separately) so it can be laid down flat
> on the ground next to the house when not in use. I plan on purchasing
> an auto tuner if necessary. The vertical can have no physical radials
> on the antenna itself.
>
> And by the way, I live in the hills above Henderson, NV so the quality
> of the ground isn't good; lots of rock and hard clay with poor
> drainage.
>
> Purchase price up to $400.00 OK. Any ideas of what might work in my
> situation?
>
> Many thanks in advance!
>

1798. PstRotator - software for antenna rotators control

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 05:59:09 UTC
From: YO3DMU <codrut.buda@gmail.com>
Message-ID: <17e88695-32a0-4a83-98ce-3b61ba54acdf@g12g2000yqd.googlegroups.com>
Source record: 4349

http://www.qsl.net/yo3dmu/index_Page346.htm
The PstRotator program works with a wide variety of rotators, tracks the Moon, and supports multi-user remote operation over the Internet. It also integrates with most logging software and satellites trackers.The user interface offers quite a selection of methods for pointing and display, as well.

1799. Transmission Line Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 07:32:28 UTC
From: Thomas Wagon <thomaswagon@gmail.com>
Message-ID: <ee246f0b-f36e-4b6f-850d-63bc2d927982@j14g2000prn.googlegroups.com>
Source record: 4350

We are self sufficient manufacturing and erecting the transmission
line Towers, substation / swit yard structures, windmill towers and
Cable trays under one roof. We have established systems, procedures
and documentation.

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Fax no.:+91-265-2310 880
E-mail: sales@teckno.co.in
sharma@tecknoind.com
tecknoindia@gmail.com

or Visit us

http://www.teckno.co.in/contacts.htm

1800. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 14:20:32 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <f7od27hn8tg86aa5gliuj69jl3knnrbrtk@4ax.com>
Source record: 4201

On Tue, 19 Jul 2011 22:53:57 -0000, jimp@specsol.spam.sux.com wrote:

I don't have any CCR problems but I do have a vertical antenna of
about 28 feet cobbled together and the SGC-237 does a great job with
it. The SGC-237 is pricey but I don't think it can be beat.

Several years ago I used 4 fifty foot extention cords on top of the
ground for radials and it did work. I experiment with antennas a lot,
so everything at my qth is always changing.

Perhaps you can glean a little inspiration from
http://dixienc.us/28FtVert/28FtVertical.htm

There are some nice light weight fiberglass whips on the market in the
$100 range. One of these days I will follow that path.

>> And by the way, I live in the hills above Henderson, NV so the quality
>> of the ground isn't good; lots of rock and hard clay with poor
>> drainage.
>>
>> Purchase price up to $400.00 OK. Any ideas of what might work in my
>> situation?
>>
>> Many thanks in advance!
>
>Some thoughts on the subject...
>
>If you are going to have an auto tuner, the antenna itself need not be
>anything more than a piece of tubing.
>
>I have a 34 ft piece of tubing with a SGC-237 and that tuned 160 (kind of
>marginally) through 10 with no problem.
>
>I added a relay controlled loading coil to switch in for 160/80 and now
>it tunes 80 faster and 160 no problem.
>
>If your main interest is the lower bands, just make the tubing as long as
>you can get away with and let the auto tuner deal with it.
>
>If it is next to the house, drive in as much ground rod as you can and use
>a garden drip system along with some flowers or whatnot around the base of
>it.
>
>Whatever radials you can install are better than nothing.

>

1801. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 14:53:56 UTC
From: Jay Scherberth <jscherberth@gmail.com>
Message-ID: <a2d90db2-e64c-4e17-aac6-b54a709e5d81@p12g2000pre.googlegroups.com>
Source record: 4202

On Jul 19, 10:29 pm, "Howard K0ACF" <howardk0...@knology.net> wrote:
> How about a flagpole vertical. There have been many write ups about them. I
> used to live in Las Vegas by Sam's Town & have seen a few installed & you
> won't know its a Ham Ant. Google Flagpole Antenna. Don't forget to put the
> flag up...Howard K0ACF"Jay Scherberth" <jscherbe...@gmail.com> wrote in message
>
> news:d2f2eb29-1050-4648-a403-2dbba299e7af@j37g2000prh.googlegroups.com...
>
>
>
>
>
>
>
> > Hi,
>
> > Just getting back on the air after many years of silence and I find
> > myself struggling over the choice of antennas. I need something that I
> > can easily raise and lower (get out of site due to CCR rules) so we're
> > talking about a compromise. I do have room for a couple of radials
> > (max 30 ft) as long as they can buried in the ground 180 degrees apart
> > (not ideal). The antenna will have to be installed within about 4 feet
> > from the side of my house. I was hoping to find a self supporting
> > vertical betwwen 30 and 40 ft hight that could pivit at the base
> > (might need to purchase that separately) so it can be laid down flat
> > on the ground next to the house when not in use. I plan on purchasing
> > an auto tuner if necessary. The vertical can have no physical radials
> > on the antenna itself.
>
> > And by the way, I live in the hills above Henderson, NV so the quality
> > of the ground isn't good; lots of rock and hard clay with poor
> > drainage.
>
> > Purchase price up to $400.00 OK. Any ideas of what might work in my
> > situation?
>
> > Many thanks in advance!

I'm actually checking with the HOA about this. Would be a perfect
solution in my case. Any suggestions about which works best?

Thanks!

1802. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 16:33:43 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <7kcjf8-cd5.ln1@mail.specsol.com>
Source record: 4204

Jay Scherberth <jscherberth@gmail.com> wrote:
> On Jul 19, 3:53 pm, j...@specsol.spam.sux.com wrote:
>> Jay Scherberth <jscherbe...@gmail.com> wrote:
>> > Hi,
>>
>> > Just getting back on the air after many years of silence and I find
>> > myself struggling over the choice of antennas. I need something that I
>> > can easily raise and lower (get out of site due to CCR rules) so we're
>> > talking about a compromise. I do have room for a couple of radials
>> > (max 30 ft) as long as they can buried in the ground 180 degrees apart
>> > (not ideal). The antenna will have to be installed within about 4 feet
>> > from the side of my house. I was hoping to find a self supporting
>> > vertical betwwen 30 and 40 ft hight that could pivit at the base
>> > (might need to purchase that separately) so it can be laid down flat
>> > on the ground next to the house when not in use. I plan on purchasing
>> > an auto tuner if necessary. The vertical can have no physical radials
>> > on the antenna itself.
>>
>> > And by the way, I live in the hills above Henderson, NV so the quality
>> > of the ground isn't good; lots of rock and hard clay with poor
>> > drainage.
>>
>> > Purchase price up to $400.00 OK. Any ideas of what might work in my
>> > situation?
>>
>> > Many thanks in advance!
>>
>> Some thoughts on the subject...
>>
>> If you are going to have an auto tuner, the antenna itself need not be
>> anything more than a piece of tubing.
>>
>> I have a 34 ft piece of tubing with a SGC-237 and that tuned 160 (kind of
>> marginally) through 10 with no problem.
>>
>> I added a relay controlled loading coil to switch in for 160/80 and now
>> it tunes 80 faster and 160 no problem.
>>
>> If your main interest is the lower bands, just make the tubing as long as
>> you can get away with and let the auto tuner deal with it.
>>
>> If it is next to the house, drive in as much ground rod as you can and use
>> a garden drip system along with some flowers or whatnot around the base of

>> it.
>>
>> Whatever radials you can install are better than nothing.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> Jim - You've given me new hope! How significant is the length and
> depth of the radials? I probably have about 30 feet each way along the
> side of the house. Are you suggesting a drip system around the ground
> rod to improve the quality of the ground or for decorative reasons or
> both?
>

The depth is deep enough to cover them with dirt.

Since they are buried, the absolute length isn't particularly important, just put in as many as you can as long as you can in whatever directions you can.

The optimum case would be if they were under a lawn that is watered, otherwise you just do what you can do.

From my point of view the drip system improves the ground while the XYL may have a different viewpoint.

In my case, there is a small copper plate at the base of the antenna that interconnects the ground rod with all the radial wires and is the ground point for the tuner.

There is an old picture at http://mail.specsol.com/~jimp/ant_base.jpg

This one doesn't fold, but it would be no big deal to make that way.

The upside down trash can covers the auto tuner.

The low band loading coil is 1/4 inch copper tubing I happened to have wound on a PVC mount and form. The switching relay is inside the coil form at the bottom.

The loading coil was trial and error adjusted for best SWR on 80 without the tuner in the circuit.

The PVC pipe going into the ground has the antenna coax and control lines for the relay and auto tuner in it.

The ratty looking braid from the ground rod going up into the trash can has since been replaced with a #6 wire to the plate.

--
Jim Pennino

Remove .spam.sux to reply.

1803. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 16:43:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <v5djf8-cd5.ln1@mail.specsol.com>
Source record: 4203

Jay Scherberth <jscherberth@gmail.com> wrote:

> The antenna would be about 4 feet away from the house. The house is 20
> ft high at the peak of the roof (single story). The roof is concrete
> tile. I've looked into suspending a wire from a telescopic pole but it
> seems like it would be a little cumbersome to raise and lower. I've
> looked at suspending a long wire between front and back yard trees but
> that is a little more permanent and the HOA could bust me if they saw
> it. This is why I'm thinking a vertical would be less visible, easier
> to setup and take down, and has a fairly small wind load. I do favor
> 20 - 10 meter bands so that might be a prob elm for the design I'm
> considering. I love the fact that cheap, small diameter pipe can work
> as well as a commercial product. Thanks for that info!

If 20 meters and up is your primary interest, instead of a base fed
vertical make it a vertical dipole with the length based on 20 M.

This has the advantage of not having to have a RF ground.

--
Jim Pennino

Remove .spam.sux to reply.

1804. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 21:26:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i8he27tdpkm5u09cridmfjld5cenv149fm@4ax.com>
Source record: 4205

On Tue, 19 Jul 2011 20:28:54 -0700 (PDT), Jay Scherberth
<jscherberth@gmail.com> wrote:

>Richard - Is there such a thing as a multi-band HF sleeve dipole or is
>this more of a VHF/UHF solution?

Hi Jay,

It is multiband if your tuner can pull the SWR into reasonable limits.
However, you do NOT want the overall length of the antenna to exceed
roughly a 1.25 wavelengths of the highest frequency you intend to
multiband. This is for two reasons at that frequency:
1. Difficult to tune at 1 wavelength;
2. Radiation is directed up at a high angle if longer than 1.25 wl.

Please read Sal's perceptive comments about hi voltage exposure; and
observe his statement about choking the line.

Futher, and this complicates the simple rules above, your sleeve
dipole does not need to be made of equal length elements. This raises
the prospects of another topic:
Vertical, Off Center Fed Dipoles.

As for building ground radials - skip that wasted effort. You have
too little footprint available, and your ground isn't conductive
enough to present that much loss. This is why I suggested the sleeve
dipole.

73's
Richard Clark, KB7QHC

1805. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-20 22:07:42 UTC
From: Sal <sobars@aol.com>
Message-ID: <j07jjgrpi1@dont-email.me>
Source record: 4206

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:i8he27tdpkm5u09cridmfjld5cenv149fm@4ax.com...

< snip >

> ... your sleeve
> dipole does not need to be made of equal length elements. This raises
> the prospects of another topic:
> Vertical, Off Center Fed Dipoles.

Yes.

Mine was mounted with the end of the bottom element within reach from the ground. I lengthened just the bottom element experimentally with a simple clip lead -- and that worked. Sometime "cheesy" works. :-)

"Sal"

1806. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 01:01:55 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j07tq3lkm1@news.jpl.nasa.gov>
Source record: 4208

On 7/19/2011 8:08 PM, Richard Clark wrote:

>> If you had two verticals spaced some distance apart, fed by equal length
>> transmission lines, and one is polarity reversed, you get a fairly sharp
>> null on the line perpendicular to the line between the antennas.
>> (e.g. a signal coming from broadside will exactly cancel in the combining)
>
> Hence my referenced Cardiod antenna available for modeling with EZNEC.

Cardioid has only a single null and is a "end fire" configuration. I
don't think (esp with short spacing) you can get as deep or narrow a
null as with a W8JK style antenna(short spacing, out of phase).

two 180 degree out of phase antennas can be very narrow, even with small
physical extent.

>
>> A loopstick antenna on a ferrite core or a multiturn loop, as popular in
>> direction finding, is another example with a fairly sharp null.
>
> Mike has explicitly rejected loop solutions.

Perhaps big loops were rejected.. what about physically small loops.

>
>> Now.. if you want one null, and one null only, that gets a bit trickier
>> in a small space. I don't know that you can do it with only two
>> elements (haven't thought about it much).
>>
>> And if you want to steer the null.
>>

>

1807. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 01:04:44 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j07tvclkm2@news.jpl.nasa.gov>
Source record: 4210

```
On 7/19/2011 8:41 PM, Jay Scherberth wrote:
> On Jul 19, 3:53 pm, j...@specsol.spam.sux.com wrote:
>> Jay Scherberth<jscherbe...@gmail.com> wrote:
>>> Hi,
>>
>>> Just getting back on the air after many years of silence and I find
>>> myself struggling over the choice of antennas. I need something that I
>>> can easily raise and lower (get out of site due to CCR rules) so we're
>>> talking about a compromise. I do have room for a couple of radials
>>> (max 30 ft) as long as they can buried in the ground 180 degrees apart
>>> (not ideal). The antenna will have to be installed within about 4 feet
>>> from the side of my house. I was hoping to find a self supporting
>>> vertical betwwen 30 and 40 ft hight that could pivit at the base
>>> (might need to purchase that separately) so it can be laid down flat
>>> on the ground next to the house when not in use. I plan on purchasing
>>> an auto tuner if necessary. The vertical can have no physical radials
>>> on the antenna itself.
>>
>>> And by the way, I live in the hills above Henderson, NV so the quality
>>> of the ground isn't good; lots of rock and hard clay with poor
>>> drainage.
>>
>>> Purchase price up to $400.00 OK. Any ideas of what might work in my
>>> situation?
>>
>>> Many thanks in advance!
>>
>> Some thoughts on the subject...
>>
>> If you are going to have an auto tuner, the antenna itself need not be
>> anything more than a piece of tubing.
>>
>> I have a 34 ft piece of tubing with a SGC-237 and that tuned 160 (kind of
>> marginally) through 10 with no problem.
>>
>> I added a relay controlled loading coil to switch in for 160/80 and now
>> it tunes 80 faster and 160 no problem.
>>
>> If your main interest is the lower bands, just make the tubing as long as
>> you can get away with and let the auto tuner deal with it.
>>
>> If it is next to the house, drive in as much ground rod as you can and use
>> a garden drip system along with some flowers or whatnot around the base of
```

>> it.
>>
>> Whatever radials you can install are better than nothing.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> Jim - You've given me new hope! How significant is the length and
> depth of the radials? I probably have about 30 feet each way along the
> side of the house. Are you suggesting a drip system around the ground
> rod to improve the quality of the ground or for decorative reasons or
> both?
>

If you've got a tuner, you don't care about the absolute length of
anything. That makes life much easier.
You put in what you can for grounding. more is better, but whatever
works.. drip irrigation is for conductivity.

If you can snuggle one of your radials up against your concrete footing,
that helps Concrete is a fairly decent conductor because it tends to
hold moisture and it has large contact area with the soil. If you're
pouring a slab for a patio, put some wires in it.

1808. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 01:08:07 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j07u5nlpv1@news.jpl.nasa.gov>
Source record: 4209

On 7/20/2011 7:20 AM, W8CCW wrote:
> On Tue, 19 Jul 2011 22:53:57 -0000, jimp@specsol.spam.sux.com wrote:
>
> I don't have any CCR problems but I do have a vertical antenna of
> about 28 feet cobbled together and the SGC-237 does a great job with
> it. The SGC-237 is pricey but I don't think it can be beat.

I favor the SG239... it's cheaper, and I can fabricate a weather proof enclosure for a lot less than the price difference to the SG-237. SG239 handles twice as much power, for all that's worth.

>
> Several years ago I used 4 fifty foot extention cords on top of the
> ground for radials and it did work. I experiment with antennas a lot,
> so everything at my qth is always changing.
>
> Perhaps you can glean a little inspiration from
> http://dixienc.us/28FtVert/28FtVertical.htm
>
> There are some nice light weight fiberglass whips on the market in the
> $100 range. One of these days I will follow that path.

Electrical conduit, or PVC pipe with some wire on or in it are other ideas.

Conduit is about as cheap as you can get, and it's available in lots of different sizes. It's light weight too, so putting it up and down is easy.

Yes, it won't stand up to a hurricane.. but hey, you scrap your $10 investment in cheap galvanized steel and buy some more.

>
>

1809. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 01:09:30 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j07u8alpv2@news.jpl.nasa.gov>
Source record: 4207

On 7/20/2011 9:43 AM, jimp@specsol.spam.sux.com wrote:
> Jay Scherberth<jscherberth@gmail.com> wrote:
>
>> The antenna would be about 4 feet away from the house. The house is 20
>> ft high at the peak of the roof (single story). The roof is concrete
>> tile. I've looked into suspending a wire from a telescopic pole but it
>> seems like it would be a little cumbersome to raise and lower. I've
>> looked at suspending a long wire between front and back yard trees but
>> that is a little more permanent and the HOA could bust me if they saw
>> it. This is why I'm thinking a vertical would be less visible, easier
>> to setup and take down, and has a fairly small wind load. I do favor
>> 20 - 10 meter bands so that might be a prob elm for the design I'm
>> considering. I love the fact that cheap, small diameter pipe can work
>> as well as a commercial product. Thanks for that info!
>
> If 20 meters and up is your primary interest, instead of a base fed
> vertical make it a vertical dipole with the length based on 20 M.
>

And put your autotuner in the middle at the feedpoint. Get yourself a
batch of 31 mix toroidal cores to make some chokes, too.

1810. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 02:49:36 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <LsMVp.19429$%f4.17669@newsfe16.iad>
Source record: 4211

You might want to consider a magnetic loop antenna -- easy to build and
conceal.
Multiband might be difficult, but a small 1m diameter loop can easily cover
20 through 10m.
Google 'magloop antenna' and 'magnetic loop antenna'

Irv VE6BP

"Jay Scherberth" <jscherberth@gmail.com> wrote in message
news:d2f2eb29-1050-4648-a403-2dbba299e7af@j37g2000prh.googlegroups.com...
> Hi,
>
> Just getting back on the air after many years of silence and I find
> myself struggling over the choice of antennas. I need something that I
> can easily raise and lower (get out of site due to CCR rules) so we're
> talking about a compromise. I do have room for a couple of radials
> (max 30 ft) as long as they can buried in the ground 180 degrees apart
> (not ideal). The antenna will have to be installed within about 4 feet
> from the side of my house. I was hoping to find a self supporting
> vertical betwwen 30 and 40 ft hight that could pivit at the base
> (might need to purchase that separately) so it can be laid down flat
> on the ground next to the house when not in use. I plan on purchasing
> an auto tuner if necessary. The vertical can have no physical radials
> on the antenna itself.
>
> And by the way, I live in the hills above Henderson, NV so the quality
> of the ground isn't good; lots of rock and hard clay with poor
> drainage.
>
> Purchase price up to $400.00 OK. Any ideas of what might work in my
> situation?
>
> Many thanks in advance!
>
>

1811. Re: Anybody following the Dallas Files

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 02:52:35 UTC
From: tom <news4792@taring.org>
Message-ID: <4e279473$0$79798$8046368a@newsreader.iphouse.net>
Source record: 4212

On 7/20/2011 8:01 PM, Jim Lux wrote:
> On 7/19/2011 8:08 PM, Richard Clark wrote:
>

After reading too many postings from this thread I wonder why anyone,
excepting myself just for this once, bothers to comment.

Who bleeping cares about this thread? This is not a great debate even
if you consider any of the the best ones here "great debates".

Which they mostly aren't.

tom
K0TAR

1812. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 10:20:29 UTC
From: fareetha asgar <fareethaasgar2011@gmail.com>
Message-ID: <dbe8a27e-2fb8-4efc-be40-4be2c6d6c175@p29g2000pre.googlegroups.com>
Source record: 4213

webpage : http://123maza.com/65/papaya846/

1813. 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 13:15:01 UTC
From: Crispytwotrees@notallthere.com
Message-ID: <iEVVp.89309$2I6.75950@newsfe27.ams2>
Source record: 4214

Hello 1st post here.

I have made 20 meter delta loop.
What I am thinking is...
If I also make a 40 meter loop, and a 10 meter loop, putting them either side of the 20 loop. As in the 20 loop in the middle. The 40 behind, the 10 in front.
With suitable spacing, all strung on 3 fishing poles.
Will this work as a directional beam of sorts hopefully all 3 bands.
I am hoping 3 traditional elements on 20,
even driven element on 40 /with 2 directors,
and on 10 with 2 reflectors.
I know the lengths of the director's and reflectors won't be as standard but with a tuner does anyone will it work to a degree?

Just kicking the idea around.

Anyone done it before?

thanks' for any help or suggestions.

1814. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 14:54:43 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <5ueg27hqeq6teglsefoimsj6pddce6lkrt@4ax.com>
Source record: 4215

Nice job!
Comments below...

On Wed, 20 Jul 2011 16:33:43 -0000, jimp@specsol.spam.sux.com wrote:

>>> > Many thanks in advance!
>>>
>>> Some thoughts on the subject...
>>>
>>> If you are going to have an auto tuner, the antenna itself need not be
>>> anything more than a piece of tubing.
>>>
>>> I have a 34 ft piece of tubing with a SGC-237 and that tuned 160 (kind of
>>> marginally) through 10 with no problem.
>>>
>>> I added a relay controlled loading coil to switch in for 160/80 and now
>>> it tunes 80 faster and 160 no problem.
>>>
>>> If your main interest is the lower bands, just make the tubing as long as
>>> you can get away with and let the auto tuner deal with it.
>>>
>>> If it is next to the house, drive in as much ground rod as you can and use
>>> a garden drip system along with some flowers or whatnot around the base of
>>> it.
>>>
>>> Whatever radials you can install are better than nothing.
>>>
>>> --
>>> Jim Pennino
>>>
>>> Remove .spam.sux to reply.
>>
>> Jim - You've given me new hope! How significant is the length and
>> depth of the radials? I probably have about 30 feet each way along the
>> side of the house. Are you suggesting a drip system around the ground
>> rod to improve the quality of the ground or for decorative reasons or
>> both?
>>
>
>The depth is deep enough to cover them with dirt.
>
>Since they are buried, the absolute length isn't particularly important, just
>put in as many as you can as long as you can in whatever directions you can.

>
>The optimum case would be if they were under a lawn that is watered, otherwise
>you just do what you can do.
>
>From my point of view the drip system improves the ground while the XYL may
>have a different viewpoint.
>
>In my case, there is a small copper plate at the base of the antenna that
>interconnects the ground rod with all the radial wires and is the ground
>point for the tuner.
>

The electrical department at your local Home improvement store has
nice Bus bars for less than $10.

>There is an old picture at http://mail.specsol.com/~jimp/ant_base.jpg
>
>This one doesn't fold, but it would be no big deal to make that way.
>
>The upside down trash can covers the auto tuner.
>
>The low band loading coil is 1/4 inch copper tubing I happened to have wound
>on a PVC mount and form. The switching relay is inside the coil form at the
>bottom.
>

Splitting PVC Tee's and using hose clamps to mount them is a new trick
to me. Thanks!

>The loading coil was trial and error adjusted for best SWR on 80 without
>the tuner in the circuit.
>
>The PVC pipe going into the ground has the antenna coax and control lines
>for the relay and auto tuner in it.
>
>The ratty looking braid from the ground rod going up into the trash can has
>since been replaced with a #6 wire to the plate.

1815. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 16:53:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vvlg27hdgg295k43mbchnn20of8t713bnu@4ax.com>
Source record: 4216

On Thu, 21 Jul 2011 14:15:01 +0100, <Crispytwotrees@notallthere.com>
wrote:

>I know the lengths of the director's and reflectors won't be as standard but

But, nothing; that's not the way things work. To get beam action,
there is a very strong correlation between element size, element
orientation, separation distance, and wavelength. Size and distance
are on order of fractions of a quarterwave, not multiples of
wavelengths.

>with a tuner does anyone will it work to a degree?

A tuner is for tuning (getting the SWR to a reasonable match). It has
nothing to do with antenna directionality.

73's
Richard Clark, KB7QHC

1816. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 19:09:01 UTC
From: dplatt@radagast.org
Message-ID: <d3amf8-tn2.ln1@radagast.org>
Source record: 4217

In article <iEVVp.89309$2I6.75950@newsfe27.ams2>,
<twoCrispytrees@notallthere.com> wrote:

>Hello 1st post here.
>
>I have made 20 meter delta loop.
>What I am thinking is...
>If I also make a 40 meter loop, and a 10 meter loop, putting them either
>side of the 20 loop. As in the 20 loop in the middle. The 40 behind, the 10
>in front.
>With suitable spacing, all strung on 3 fishing poles.
>Will this work as a directional beam of sorts hopefully all 3 bands.
>I am hoping 3 traditional elements on 20,
>even driven element on 40 /with 2 directors,
>and on 10 with 2 reflectors.
>I know the lengths of the director's and reflectors won't be as standard but
>with a tuner does anyone will it work to a degree?

I think you'd need to model it out with NEC to see if it would work.

I'm unclear as to whether you're planning to have separate feedlines
for the three delta loops, or whether you were thinking of just
driving one of the loops on all three bands and having the other two
loops be entirely passive. If you are thinking of driving the three
loops separately, I'm uncertain what you intend to do with the other
two loops - leave the feedlines open, short the feedlines, or
disconnect the loops from the feedlines and short the loops closed at
the feedpoint.

You'll be facing a few significant issues, when trying to use the
un-driven loops as directors / reflectors. For the sake of simplicity
I'll assume that the un-driven loops will be purely passive loops of
the expected length (e.g. no feedlines, or with the loop shorted
closed at the feedpoint).

For example, on 20:

- The 10-meter loop is going to be only a half-wavelength long. It
won't resonate (or be anything close to resonance), but will
instead have a low radiation resistance and a very high reactive
impedance. As a result it will probably be almost "invisible" at
20 meters, and will not carry enough currents to affect the pattern
significantly.

- The 40-meter loop will be about 2 wavelengths long. Although it may
be at (or close to) a second-harmonic resonance, the currents in it

would not line up well with those in the fundamental-resonance 20-meter loop, and the effect on the main loop's overall radiation pattern would probably be quite weird.

Similarly, on 40, the two smaller loops will be highly reactive and thus almost "invisible". On 10, the two larger loops may resonate, but with current patterns which don't add well to that of the 10-meter loop and thus affect the pattern in weird ways.

There's another option: use some nested passive delta loops. Mount a second 10-meter delta loop (tuned a bit lower in frequency than you normally operate) suspended inside the 20-meter delta. Mount a second 20-meter loop (again, tuned a bit on the low side) inside the 40-meter delta. This would give you the effect of a two-element beam (radiator and reflector) on 10 and 20 meters, without affecting 40-meter operation significantly.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

1817. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 19:44:51 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <057836fd-1bed-4578-9e98-029f3336eddb@j15g2000yqf.googlegroups.com>
Source record: 4218

On Jul 21, 8:15 am, <Crispytwotr...@notallthere.com> wrote:
> thanks' for any help or suggestions.

Take a look at the multiband quad beam in *The ARRL Antenna Book*.
That's what you would have to do for your multiband delta beam. Your
idea will simply not work.
--
73, Cecil, w5dxp.com

1818. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-21 21:30:59 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j0a5qj$d2h$1@news.jpl.nasa.gov>
Source record: 4219

On 7/21/2011 12:09 PM, Dave Platt wrote:
> In article<iEVVp.89309$2I6.75950@newsfe27.ams2>,
> <twoCrispytrees@notallthere.com> wrote:
>
>> Hello 1st post here.
>>
>> I have made 20 meter delta loop.
>> What I am thinking is...
>> If I also make a 40 meter loop, and a 10 meter loop, putting them either
>> side of the 20 loop. As in the 20 loop in the middle. The 40 behind, the 10
>> in front.
>> With suitable spacing, all strung on 3 fishing poles.
>> Will this work as a directional beam of sorts hopefully all 3 bands.
>> I am hoping 3 traditional elements on 20,
>> even driven element on 40 /with 2 directors,
>> and on 10 with 2 reflectors.
>> I know the lengths of the director's and reflectors won't be as standard but
>> with a tuner does anyone will it work to a degree?
>
> I think you'd need to model it out with NEC to see if it would work.
>
> I'm unclear as to whether you're planning to have separate feedlines
> for the three delta loops, or whether you were thinking of just
> driving one of the loops on all three bands and having the other two
> loops be entirely passive. If you are thinking of driving the three
> loops separately, I'm uncertain what you intend to do with the other
> two loops - leave the feedlines open, short the feedlines, or
> disconnect the loops from the feedlines and short the loops closed at
> the feedpoint.

>
> You'll be facing a few significant issues, when trying to use the
> un-driven loops as directors / reflectors. For the sake of simplicity
> I'll assume that the un-driven loops will be purely passive loops of
> the expected length (e.g. no feedlines, or with the loop shorted
> closed at the feedpoint).
>
>
> There's another option: use some nested passive delta loops. Mount a
> second 10-meter delta loop (tuned a bit lower in frequency than you
> normally operate) suspended inside the 20-meter delta. Mount a second
> 20-meter loop (again, tuned a bit on the low side) inside the 40-meter
> delta. This would give you the effect of a two-element beam (radiator
> and reflector) on 10 and 20 meters, without affecting 40-meter

> operation significantly.
>

Hard to know exactly what you're planning on building. Are you going to have 3 loops, one for 10, one for 20, one for 40 arranged in a row, sort of like rings on a post?

If you had a tuner on each loop, one might be able to get it to work. For instance, one can build a Yagi with 3 equal (or arbitrary) length elements and use L or C at the centers of the elements to get the phasing right.

The problem with 3 loops of radically different size is that the L and/or C might be impractically large/small to get it to work.

With a bit of work modeling, you MIGHT be able to come up with a single L and C per band for each element, so you could use some sort of simple "two relays per loop" scheme.

1819. Re: Best Self Supporting Vertical Multi-band Antenna for Restricted Neighborhoods

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 01:13:49 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <4OSdnb49Y41WU7XTnZ2dnUVZ_omdnZ2d@bright.net>
Source record: 4220

Any HF antenna worker needs a bunch of #31 cores in a few sizes on hand.
Jim is spot on.
73, Mac N8TT

"Jim Lux" wrote in message news:j07u8alpv2@news.jpl.nasa.gov...

And put your autotuner in the middle at the feedpoint. Get yourself a
batch of 31 mix toroidal cores to make some chokes, too.

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

1820. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 09:55:59 UTC
From: Crispytwotrees@notallthere.com
Message-ID: <QObWp.33583$OV1.311@newsfe29.ams2>
Source record: 4221

thanks for the input good fellows!
I'm obviously just playing around here.
I have looked round on the net and it's a cobweb antenna I was headed for.
I had the idea explained to me, but until I saw it, I had NO IDEA!
now it a tad clearer.

http://www.g3tpw.co.uk/

here is the website I found. clear as mud now... thanks again.

1821. Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 16:51:18 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <lu9j27drlnanelqf4mp7bmkr390n17ob20@4ax.com>
Source record: 4222

I'm helping a friend build a very simple portable VHF antenna for hiking. Ignoring all the ladder line J-pole antennas on the web, I decided a simple coaxial antenna would suffice. Remove 19.2" of outer jacket, peel back the braid over the outer jacket, tape, and instant 75 ohm coaxial dipole antenna. However, I'm not sure if the driven element cut length is the free space 1/4 wavelenth, as it would be with a metal rod coax antenna, or if I should include the 0.67 velocity factor of the coax dielectric covering the center conductor. Is it 19.2" or 12.9" for the driven element? My sense of smell says 19.2" but I'm not sure and can't find any specific references that deal with the problem.

Note: I would normally test this on the bench with a reflection coefficient bridge and sweep generator but I have another project going on the bench and don't want to move or touch anything right now.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1822. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 17:44:01 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <bec46763-19dd-4c6a-b293-1aba445b92c4@h17g2000yqn.googlegroups.com>
Source record: 4223

On Jul 22, 11:51 am, Jeff Liebermann <je...@cruzio.com> wrote:
> However, I'm not sure if the driven
> element cut length is the free space 1/4 wavelenth, as it would be
> with a metal rod coax antenna, or if I should include the 0.67
> velocity factor of the coax dielectric covering the center conductor.
> Is it 19.2" or 12.9" for the driven element?

Use the 0.67 VF on transmission line currents. Use VF = 0.95-0.97 for
antenna currents.
--
73, Cecil, w5dxp.com

1823. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 18:35:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f8gj27lkkqev2bgevpokpbrr2slcmn9bi8@4ax.com>
Source record: 4224

On Fri, 22 Jul 2011 09:51:18 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>if I should include the 0.67
>velocity factor of the coax dielectric covering the center conductor.
>Is it 19.2" or 12.9" for the driven element?

Hi Jeff,

Ah! The sleeve dipole re-emerges.

The exposed wire isn't much different from any other insulated wire
antenna. Air dominates the dielectric constant to the now remote
braid and the plastic ever so slightly shifts things. EZNEC includes
modeling insulated wire.

More's the issue of the dielectric coefficient of the braid pulled
back over the outer jacket of your coax. Coupling issues to the
insulated braid there too shift dynamics - and probably dominates the
DC characteristic.

I usually cut long, and slowly snip the exposed wire until SWR
improves. Choking the line would stabilize this.

73's
Richard Clark, KB7QHC

1824. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 18:45:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4pgj27h2vvcls0lsl7iis3d4eu6kdsalrd@4ax.com>
Source record: 4225

On Fri, 22 Jul 2011 10:55:59 +0100, <Crispytwotrees@notallthere.com>
wrote:

>thanks for the input good fellows!
>I'm obviously just playing around here.
>I have looked round on the net and it's a cobweb antenna I was headed for.
>I had the idea explained to me, but until I saw it, I had NO IDEA!
>now it a tad clearer.
>
>http://www.g3tpw.co.uk/
>
>here is the website I found. clear as mud now... thanks again.

First, the design you are looking is NOT a loop (nor loops).

The design you are looking is NOT a beam.

The design you are looking is NOT directional.

Aside from that, it has been around for a while, and satisfies many.
You may be one who would be happy with it, but that is obscure until
you tell us what you want to achieve without trying to shoe-horn in
presumed solutions.

The simple explanation for the design you have linked to is that it is
a "Fan Dipole." The fan is found in the common feed point (at the
left) supporting paired wires for each band spreading (fanning) out.
What makes it unusual is that it is wrapped into a box-like footprint
(without the ends meeting, look closely at the photo). The wrapping
also changes the usual dipole radiation characteristic from dipolar
(radiating in two major lobes) to nonpolar (radiating in all
directions).

Do you have a call sign?

73's
Richard Clark, KB7QHC

1825. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 18:54:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9ghj27hp4gl65g5t632g7lncurc7fo93sc@4ax.com>
Source record: 4226

On Fri, 22 Jul 2011 11:35:09 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>I usually cut long, and slowly snip the exposed wire until SWR
>improves. Choking the line would stabilize this.

Another solution I've tried is to put a choke on the line that I can
slide along its length (and later tape down). I then put a connecter
at the far (antenna) end of this line. I then put a bare/insulated
wire on a female connecter and mate the two. This preserves the line
from stripping and peeling back.

I cannot vouch how effective this is as a "Sleeve Dipole" in all the
standard characteristics. The Choke Z would have to be very, very
high to electrically snip the lower end to the right length to tune
it. Another choke a quarter wave away would be necessary. All
doable, certainly, but ad-hoc.

73's
Richard Clark, KB7QHC

1826. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 21:01:02 UTC
From: Crispytwotrees@notallthere.com
Message-ID: <jylWp.64066$Sr.29784@newsfe12.ams2>
Source record: 4227

Do you have a call sign?

no, no call sign, I have just been given a shortwave radio
Realistic DX-300 Shortwave Radio Receiver.
I was told I could just hang a good length of wire out in the tree and it
will work.
It does but thought I would have a bit of a go at improving things.
I read a lot on the ham radio news groups, but you can get bitten when you
ask a question,
so thought would try here. I quite like listening to ham types, and the
techno talk, not too keen on the 5/9 next please bust busy contacts, but
when people have real conversations about making stuff its good listening.
. thanks anyhow.

1827. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-22 23:13:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F2B5DD3DDE2Enonenowhere@88.198.244.100>
Source record: 4228

Jeff Liebermann <jeffl@cruzio.com> wrote in
news:lu9j27drlnanelqf4mp7bmkr390n17ob20@4ax.com:

Jeff,

You are treading down a well worn path.

There is a flaw in thinking that the shield of the coax below the bottom of your nominal dipole does not carry significant current on the outer surface. Whilst you are trying to account for the current distribution on the nominal dipole, you are ignoring the common mode current on the feedline.

The antenna will 'work' and you may be delightedm but if you expect that it will have very low VSWR based on formula dimensions, I think you will be dissapointed.

You might obtain better feedline decoupling by some form of common mode choke.

The failure of the sleeve to effectively decouple the dipole is the reason why several antennas don't work as thought. King gives some hints that the relative diameters of the conductors bears on operation.

Owen

1828. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 00:32:57 UTC
From: Sal <sobars@aol.com>
Message-ID: <j0d4rtpna1@dont-email.me>
Source record: 4229

"Owen Duffy" <none@no.where> wrote in message
news:Xns9F2B5DD3DDE2Enonenowhere@88.198.244.100...

> The failure of the sleeve to effectively decouple the dipole is the
> reason why several antennas don't work as thought. King gives some hints
> that the relative diameters of the conductors bears on operation.
>
> Owen
>

I made a sleeve dipole cut for 375 MHz for listening to the Blue Angels in flight at NAS Miramar, c. 1992. It worked, but, heck, we could see them most of the time. I was in Coat Hanger Territory. By the way, the Blue Angles say very little in flight. :-(

This thread got me thinking. If three or four tuned radials were added, would this be a better approach? Yes, I realize it gets toward a lot of the standard commercial monopole antennas, with their 45-degree-down radials. I mention this because such radials could be added and still keep the builder in comfy Coat Hanger Territory -- that is, a very light, casual, cobbled-together antenna -- but something that works a bit better and helps the decoupling.

Frankly, I understand what it is to buy something and what it is to build something; I'd rather build. It keeps me off the street. :-)

"Sal"
(Kd6VKW)

1829. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 02:29:24 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <LIqWp.98435$8G4.40219@newsfe17.iad>
Source record: 4230

One handy hint is that you can adjust the folded back shield by moving it up and dowm
along the coax and holding it in place with a clothespin or something similar.

Irv VE6BP

1830. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 02:42:29 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j0dcer$v45$3@dont-email.me>
Source record: 4231

On 7/22/2011 11:51 AM, Jeff Liebermann wrote:
> I'm helping a friend build a very simple portable VHF antenna for
> hiking. Ignoring all the ladder line J-pole antennas on the web, I
> decided a simple coaxial antenna would suffice. Remove 19.2" of outer
> jacket, peel back the braid over the outer jacket, tape, and instant
> 75 ohm coaxial dipole antenna. However, I'm not sure if the driven
> element cut length is the free space 1/4 wavelenth, as it would be
> with a metal rod coax antenna, or if I should include the 0.67
> velocity factor of the coax dielectric covering the center conductor.
> Is it 19.2" or 12.9" for the driven element? My sense of smell says
> 19.2" but I'm not sure and can't find any specific references that
> deal with the problem.
>
> Note: I would normally test this on the bench with a reflection
> coefficient bridge and sweep generator but I have another project
> going on the bench and don't want to move or touch anything right now.
>

Go with your sense of smell. The velocity factor of coax only applies
when the shield is positioned where it is designed to be. Let us know
how it fares.

1831. Re: 20 meter delta lop

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 02:57:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <73ek27tbkhavjgl789knn4lj7euahgoru7@4ax.com>
Source record: 4232

On Fri, 22 Jul 2011 22:01:02 +0100, <Crispytwotrees@notallthere.com>
wrote:

>I was told I could just hang a good length of wire out in the tree and it
>will work.
>It does but thought I would have a bit of a go at improving things.

A good connection to ground, and a tuner will do a lot with your
established antenna.

73's
Richard Clark, KB7QHC

1832. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 03:39:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F2B8ADE1E8ECnonenowhere@88.198.244.100>
Source record: 4233

"Sal" <sobars@aol.com> wrote in news:j0d4rtpna1@dont-email.me:

> ...
> This thread got me thinking. If three or four tuned radials were
> added, would this be a better approach?

A set of radials helps to decouple the feedline, in this case, you would place them a quarter wave below the bottom of the sleeve.

Ok, you have noted commercial implemenations of this idea... yes it is done. The quarter wave between the radials and the bottom of the sleeve carries significant current, ie it affects the pattern and gain.

And still, decoupling is not perfect, though much better.

Whilst the OP's design looks like it is simple, in my experience it is not. Whilst I have had a lot of success with coaxial dipoles where the sleeve was three times or more the diameter of the inner element and substantially air dielectric, I have had little success the the cheap and nasty approach of applying braid over a vinyl jacket and trying to adjust it for low common mode feed line impedance and low VSWR. I am not saying it is impossible, just not as easy as a ground plane!

Owen

1833. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 05:51:26 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <hpmk27d73glut4jmk69ms30f7gpf10jrk8@4ax.com>
Source record: 4234

On Fri, 22 Jul 2011 23:13:25 +0000 (UTC), Owen Duffy <none@no.where>
wrote:

>You are treading down a well worn path.

Yeah, I know the feeling when I'm stuck in a rut.

>There is a flaw in thinking that the shield of the coax below the bottom
>of your nominal dipole does not carry significant current on the outer
>surface. Whilst you are trying to account for the current distribution
>on the nominal dipole, you are ignoring the common mode current on the
>feedline.

Agreed. The feedline should be decoupled, which one can do by
wrapping a few turns into a coil and tied together with tie wraps.
Another method is a 1/4 wave decoupling sleeve further down the coax
cable.

>The antenna will 'work' and you may be delightedm but if you expect that
>it will have very low VSWR based on formula dimensions, I think you will
>be dissapointed.

Well, putting a 75 ohm antenna onto a 50 ohm system results in a
minimum VSWR of 1.5:1 assuming the coax is cut for some multiple of
1/2 wave electrical length. Also, most HT's are designed to tolerate
the fairly miserable VSWR presented by rubber ducky antennas and body
proximity.

In this case, the problem to be solved was rather mundane. A friend
was in the process of packing for a weekend camping trip with the
kids. His 13 year old daughter apparently had lost the rubber ducky
antenna from her Yaesu FT-60r. Rather than borrow an antenna, or
build an adapter kludge, he decides it's time for her to build an
antenna. They found some SMA cables, and proceeded to make a simple
coaxial sleeve dipole. However, there was some debate over the cut
length of the driven element because of the presence of coax
dielectric. I get a hasty email with the question and discover that I
really don't know the answer. So, I posted the question here. We'll
find out how it worked when they return.

Whether the home made antenna is optimized for best performance
doesn't seem to be important in this case. Any reasonable antenna is
better than a rubber ducky, so she should be fine (assuming she
doesn't lose another antenna).

>You might obtain better feedline decoupling by some form of common mode
>choke.

Yes, that will help (as previously noted).

>The failure of the sleeve to effectively decouple the dipole is the
>reason why several antennas don't work as thought. King gives some hints
>that the relative diameters of the conductors bears on operation.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1834. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 05:53:45 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <qdok27pjjlic4kqj8b94sth21onbnpok7m@4ax.com>
Source record: 4235

On Fri, 22 Jul 2011 10:44:01 -0700 (PDT), W5DXP <w5dxp@hotmail.com>
wrote:

>On Jul 22, 11:51ï¿½am, Jeff Liebermann <je...@cruzio.com> wrote:
>>ï¿½However, I'm not sure if the driven
>> element cut length is the free space 1/4 wavelenth, as it would be
>> with a metal rod coax antenna, or if I should include the 0.67
>> velocity factor of the coax dielectric covering the center conductor.
>> Is it 19.2" or 12.9" for the driven element?
>
>Use the 0.67 VF on transmission line currents. Use VF = 0.95-0.97 for
>antenna currents.

Thanks. That's what I was looking for.
--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1835. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 07:15:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F2BAF7E1C895nonenowhere@88.198.244.100>
Source record: 4236

Jeff Liebermann <jeffl@cruzio.com> wrote in
news:hpmk27d73glut4jmk69ms30f7gpf10jrk8@4ax.com:

...
> Agreed. The feedline should be decoupled, which one can do by
> wrapping a few turns into a coil and tied together with tie wraps.
> Another method is a 1/4 wave decoupling sleeve further down the coax
> cable.

Those all may reduce common mode current. If you have tried them and
measured the results, you know by how much.

...
> kids. His 13 year old daughter apparently had lost the rubber ducky
> antenna from her Yaesu FT-60r. Rather than borrow an antenna, or
> build an adapter kludge, he decides it's time for her to build an
> antenna. They found some SMA cables, and proceeded to make a simple
> coaxial sleeve dipole. However, there was some debate over the cut
> length of the driven element because of the presence of coax
> dielectric.

And the answer is not a simple as put by some. Particularly, if you had
in mind that the sleeve should be an electrical quarter wave to current
flowing on the outside so forming half of a centre fed dipole, and an
electrical quarter wave on the inside to form a quarter wave s/c stub,
the presence of high permittivity dielectric on the inside prevents
those both happening together... so you compromise, like discarding the
centre fed concept, tune the s/c stub for resonance (max decoupling, and
the sleeve will be less than a physical quarter wave), now tune the top
part of the dipole (it will be a bit longer than a physical quarter
wave) for lowest VSWR on the feedline.

> I get a hasty email with the question and discover that I
> really don't know the answer. So, I posted the question here. We'll
> find out how it worked when they return.

To some extent, everything 'works'. Just stripping a quarter wave of
shield off the end of a length of coax probably 'works' about as well.

>
> Whether the home made antenna is optimized for best performance
> doesn't seem to be important in this case.

Indeed, it seems that for most modern hams, performance isn't an issue
or of interest.

Owen

1836. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 10:31:42 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <69f63751-d59e-4417-a69d-faf407662809@gh5g2000vbb.googlegroups.com>
Source record: 4237

Will it work? Yes. Will it be a very good antenna? No, but you
didn't expect it to be, did you? It's possible for it to be better
than the typical rubberducky though. That's the whole point, isn't
it?
- 'Doc

1837. Re: Cut length on antenna made from coax cable

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 16:23:53 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <k6ql279lqjfscdst1u1p4fb4vgmkqjtnu3@4ax.com>
Source record: 4238

On Sat, 23 Jul 2011 07:15:07 +0000 (UTC), Owen Duffy <none@no.where>
wrote:

>Jeff Liebermann <jeffl@cruzio.com> wrote in
>news:hpmk27d73glut4jmk69ms30f7gpf10jrk8@4ax.com:
>
>...
>> Agreed. The feedline should be decoupled, which one can do by
>> wrapping a few turns into a coil and tied together with tie wraps.
>> Another method is a 1/4 wave decoupling sleeve further down the coax
>> cable.
>
>Those all may reduce common mode current. If you have tried them and
>measured the results, you know by how much.

I haven't. I also know that using the available RG-316 or RG-174 coax
cable is not going to yield optimum results. For a commercial
product, suitable for general consumption, such compromises are not a
great idea. However, for the purpose intended (short notice
replacement of a lost HT antenna suitable for a camping trip), in my
never humble opinion, is totally adequate. As long as it throw RF in
the correct direction, and doesn't cause the transmitter to shut down
from excessive VSWR, it should suffice.

>And the answer is not a simple as put by some.

With all due respect, the answer is NEVER as simple as the common
wisdom and practice. I just went through a similar mess in
rec.bicycles.tech, where I contended that many of the common design
practices found in todays bicycles are not sufficiently optimized.
When success is measured in milliseconds and profitability in tenths
of a penny, then good enough is never really good enough. Antennas
should all be silver painted, made from Litz wire, use Teflon
insulators, suspended air dielectric coax cable, and gold plated
connectors. That should squeeze the last 0.000001dB out of the
design. One can always make an antenna a little bit better.

However, I don't think the 13 year old will notice. Similarly, 90% of
the hams using a sleeve dipole coax antenna will notice. The real
question is "what is good enough". In this case, it's the ability of
a 13 year old to build an antenna on short notice, that works at least
better than the stock rubber ducky, with available parts, and probably
keep her out of the parents way as they load up the camper.

>Particularly, if you had
>in mind that the sleeve should be an electrical quarter wave to current

>flowing on the outside so forming half of a centre fed dipole, and an
>electrical quarter wave on the inside to form a quarter wave s/c stub,
>the presence of high permittivity dielectric on the inside prevents
>those both happening together...

Huh? I thought (err... guessed) that the dielectric only has an
effect if it were between the conductors. The grounded half of the
dipole formed by coax braid has the vinyl outer jacket forming a
dielectric. I presume this is what you consider to be a problem.
Worse, the jacket can be various grades (flooded, plenum, buriable)
with various dopings (UV proofing, gel filled). In general, it seems
to shorten the electrical wavelength. This is usually not a problem
because expanding the diameter of the coax braid, as it's folded back
over the shield, also mechanically shortens the braid. In the 2 or 3
such antennas I've built over the years, I've randomly shortened the
braid. What makes such arbitrary design decisions function is that
the dipole has a rather large operating bandwidth. One can be
incredibly sloppy and still end up with an acceptable antenna.

>so you compromise, like discarding the
>centre fed concept, tune the s/c stub for resonance (max decoupling, and
>the sleeve will be less than a physical quarter wave), now tune the top
>part of the dipole (it will be a bit longer than a physical quarter
>wave) for lowest VSWR on the feedline.

I must confess that I haven't bothered to try optimizing such an
antenna, while you obviously have made the attempt. What I usually do
with crude antennas is to attach one of several reflection coefficient
bridges in my pile or a directional coupler and some diode detectors,
sweep generator, and scope, and just play with the dimensions until it
works. Calculations, NEC models, and theory are great, but I prefer
to see the results on some test equipment. (For 2.4 and 5.7Ghz
antennas, I have a rather marginal test range and transfer standard,
which are suitable for estimating the gain of the antenna).

>> I get a hasty email with the question and discover that I
>> really don't know the answer. So, I posted the question here. We'll
>> find out how it worked when they return.
>
>To some extent, everything 'works'. Just stripping a quarter wave of
>shield off the end of a length of coax probably 'works' about as well.

That's probably what she ended up building. If she can talk into the
local repeaters, it's good enough. In this case, the 13 year old
antenna builder is probably not up to doing much more than measuring,
removing the outer jacket and peeling back the braid. I was going to
suggest adding a decoupling sleeve (using aluminum foil duct tape),
but decided that would be too much for a quick build. Maybe when they
return.

I forgot who rammed this down my throat when first got started in
engineering.... "The secret to engineering is to know when to stop

engineering and start building". It's a moving target, that has many implications, but my method is that when it meets the "suitability for purpose" criteria, you're done.

>> Whether the home made antenna is optimized for best performance
>> doesn't seem to be important in this case.
>
>Indeed, it seems that for most modern hams, performance isn't an issue
>or of interest.

That's also true for 90% of bicyclists. 90% of the bicycling public do not race their bicycles. Similarly, 90% of the hams probably are not optimizing their antennas and designs to what can theoretically be achieved. It doesn't take much to look at an existing design of literally anything, and think of a better way to do it. I do this all the time. (Former ladyfriend called it the engineering mentality and claimed it drove her nuts). Whether the average ham wants or needs that last dB squeezed out of the design is problematic. If I were doing moonbounce or microwave DX, where every fraction of a dB is important, I would certainly be into such optimizations. However, for yacking on the local repeaters, almost anything will work.

I'll probably steal a few of your ideas and comments in order to build a "better" coax cable dipole, if she returns with an interest in how it works, or how to make it better.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1838. 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 18:45:32 UTC
From: Eagle <none@thanx.wecum>
Message-ID: <j0f4sdick1@dont-email.me>
Source record: 4239

Hello,
I want to put up a center fed dipole for 75 meters. Trouble is, my lot
is not large enough to run the two legs without any bends.
My tower is in the center of my lot and is 60 feet at the peak, and is
40 feet to both ends of the lot.
What would the best solution be without using coils to "shorten" the
antenna?
I've had some luck by "dog legging" each leg of the dipole, but have
not gone past 200 watts power for fear of a arc.

Thanks,
73, W6IML

--
War does not Determine who is right
war determines who is Left.

1839. Re: 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 19:24:46 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cc17$4e2b1f4e$5355cc82$29435@cache110.multikabel.net>
Source record: 4240

El 23-07-11 20:45, Eagle escribiï¿œ:
> Hello,
> I want to put up a center fed dipole for 75 meters. Trouble is, my lot
> is not large enough to run the two legs without any bends.
> My tower is in the center of my lot and is 60 feet at the peak, and is
> 40 feet to both ends of the lot.
> What would the best solution be without using coils to "shorten" the
> antenna?
> I've had some luck by "dog legging" each leg of the dipole, but have
> not gone past 200 watts power for fear of a arc.
>
> Thanks,
> 73, W6IML
>

Hello Dave,

Having some bends in it (or a small vertical part) will result in
minor change, as you have sufficient straight length (your 80 ft lot).

You may need to increase the overall length somewhat and the input
impedance may reduce somewhat. If the ends run vertically and are
close to ground, length reduces mostly.

With kind regards,

Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

1840. Re: 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-23 19:50:44 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <0vKdnYviO8eNu7bTnZ2dnUVZ_oednZ2d@earthlink.com>
Source record: 4241

"Eagle" <none@thanx.wecum> wrote in message
news:j0f4sdick1@dont-email.me...
> Hello,
> I want to put up a center fed dipole for 75 meters. Trouble is, my lot is
> not large enough to run the two legs without any bends.
> My tower is in the center of my lot and is 60 feet at the peak, and is 40
> feet to both ends of the lot.
> What would the best solution be without using coils to "shorten" the
> antenna?
> I've had some luck by "dog legging" each leg of the dipole, but have not
> gone past 200 watts power for fear of a arc.
>
> Thanks,
> 73, W6IML
>
> -- determines who is Left.
>
>

Using only the wire, get as much of the middle as high as you can and put the last 20 or so feet of the antenna anywhere you can as high as you can get it. Most of the radiation of a dipole is from the center part of the antenna.

Try to keep the angle at the center as large as you can and not less than 90 to 120 degrees if possiable.

1841. Re: 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-24 00:14:20 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-9DE919.20141923072011@5ad64b5e.bb.sky.com>
Source record: 4242

In article <j0f4sdick1@dont-email.me>, Eagle <none@thanx.wecum>
wrote:

> My tower is in the center of my lot and is 60 feet at the peak, and is
> 40 feet to both ends of the lot.

Eagle-

A quick calculation suggests you could put up a 144 foot inverted V
dipole with no other bends. You could elevate the ends or lower the
center to fit your antenna.

Fred
K4DII

1842. Re: 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-24 00:38:40 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j0fpim$e5d$3@dont-email.me>
Source record: 4243

On 7/23/2011 1:45 PM, Eagle wrote:
> Thanks,
> 73, W6IML
>
> --
> War does not Determine who is right
> war determines who is Left.

Since you capitalized Left, I assume you mean the political Left.

In that case, you are wrong.

1843. Re: KD8CTL LARGE AND IN CHARGE!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-24 19:02:17 UTC
From: radio rambo <radiorambo@nomail.invalid>
Message-ID: <4e2c6d24$0$31392$a8266bb1@newsreader.readnews.com>
Source record: 4244
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"kb9rqz" wrote in message
http://kd8ctl.blogspot.com/

How did Gav get so fat, did she stop eating the kelp?

1844. Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-24 22:52:08 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <fa364fa2-5eba-476e-a6af-66354a902581@l18g2000yql.googlegroups.com>
Source record: 4245

A Ham buddy 's son just got his General ticket, and asked for my assistance in making a surprise contact with his Dad for his first HF QSO. He had bought a nice 100W HF rig with an auto tuner, and an 40M-10M coax fed multi-band doublet antenna that was to be put in his attic initially. He lives about 100 miles from his Dad.

I thought this was really cool, so I said I would set the whole thing up. Suggested 80M early evening for that distance would be best bet. He told me the auto tuner would not tune the 40-10 antenna on 80M (5to1 SWR). He then asked (here is the magic part) what he could do in 1 hour to get the antenna to tune on 80M.

I told him to short the 40M loading coils, and add enough Home Depot wire to each end so that the auto tuner was happy. He had a 100' extension cord that he cut up and got the auto tuner happy <1.5 swr.

At QSO time he could hear neither his dad or myself, and we gave up. Not to be discouraged he removed the shorts and additional wire, the tuner provided a 5:1 swr, and he had a nice QSO with his dad. He also stated he heard a lot more signals than before.

Other than the obvious (he was mistaken in what he reported to me) any ideas as to what went wrong? I don't think he will ask for any more advice from me.

Gary N4AST

1845. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 03:00:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3fmp27p9lk8d8umob9cm8e9bvqhi4t86u5@4ax.com>
Source record: 4246

On Sun, 24 Jul 2011 15:52:08 -0700 (PDT), Gary <jgboyles@aol.com>
wrote:

> the
>tuner provided a 5:1 swr, and he had a nice QSO with his dad. He also
>stated he heard a lot more signals than before.

Which goes to show that power is not necessary for communications. (If
at 5:1, you are still getting half the power out into the ï¿½ther. Let's
call it 10:1 - that's still 30W out across 100 miles.) Nevermind the
smoke.

>Other than the obvious (he was mistaken in what he reported to me) any
>ideas as to what went wrong?

You mean the shorted coils and the extra wire? (Maybe he should have
turned it off, and then back on again - Oops, standard IT advice.)

Haven't a clue.

>I don't think he will ask for any more
>advice from me.

Time will tell.

73's
Richard Clark, KB7QHC

1846. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 03:20:33 UTC
From: nm5k@wt.net
Message-ID: <67cb9ddb-0556-4268-976d-db496c2f8b17@glegroupsg2000goo.googlegroups.com>
Source record: 4247

On Sunday, July 24, 2011 5:52:08 PM UTC-5, Gary wrote:

>
> Other than the obvious (he was mistaken in what he reported to me) any
> ideas as to what went wrong? I don't think he will ask for any more
> advice from me.
>
> Gary N4AST

Propagation changed I bet. I strongly suspect the antenna
had nothing to do with it, and the extra wire and coils
bypassed was most likely the best system regardless of
the results seen when trying it.
It was most likely a fluke of nature, and I imagine
your antenna really was the best of the two.
If the band is kaput, nothing will work. 80m can get
really funky early in the evening. Have him try the longer
antenna a bit more at different times of day before discarding
it.. It should be fine. I have trouble seeing it being worse
than the shorter version with the less favorable match.

1847. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 04:11:44 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <n2qp27lb07v3vobvjk3n1vv28k4fbli7vi@4ax.com>
Source record: 4248

On Sun, 24 Jul 2011 15:52:08 -0700 (PDT), Gary <jgboyles@aol.com>
wrote:

>Other than the obvious (he was mistaken in what he reported to me) any
>ideas as to what went wrong?

You forgot to offer burnt offerings to the radio propagation gods.

>I don't think he will ask for any more
>advice from me.

80 meters at 100 miles is in the range of the NVIS propagation. 25
miles is about the limit for 80m ground wave, and 300 miles is about
where sky wave starts. The problem with NVIS is that it's really
picky about the height of the antenna above the ground. I don't have
very much NVIS experience to offer any guaranteed suggestions on how
to make NVIS work reliably. I assume the kid will be talking to his
father regularly. My limited and unscientific tinkering empirically
determined that the NVIS horizontal antenna wire has to be fairly
close to the ground. A dipole that close to the ground has a fairly
low impedance. See "height above ground" section:
<http://www.w0ipl.net/ECom/NVIS/nvis.htm>
My guess(tm) is that with the antenna near the ground, most of the RF
goes straight up, which is what you want for NVIS, while an elevated
antenna delivers more RF towards the horizon. There are plenty of web
sites expounding on NVIS antenna and propagation worth reading. Tell
the kid what you think happened, but let him do the research and
tinkering.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1848. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 05:36:31 UTC
From: nm5k@wt.net
Message-ID: <4e47dd66-bee5-41b5-b0f8-bf80ba08e9be@glegroupsg2000goo.googlegroups.com>
Source record: 4249

On Sunday, July 24, 2011 11:11:44 PM UTC-5, Jeff Liebermann wrote:
> On Sun, 24 Jul 2011 15:52:08 -0700 (PDT), Gary <jgbo...@aol.com>
> wrote:
>
> >Other than the obvious (he was mistaken in what he reported to me) any
> >ideas as to what went wrong?
>
> You forgot to offer burnt offerings to the radio propagation gods.
>
> >I don't think he will ask for any more
> >advice from me.
>
> 80 meters at 100 miles is in the range of the NVIS propagation. 25
> miles is about the limit for 80m ground wave, and 300 miles is about
> where sky wave starts. The problem with NVIS is that it's really
> picky about the height of the antenna above the ground.

Not really. Just as long as the antenna can radiate upwards,
the height above ground is fairly non critical. IE: at dipole
at most any practical height will still be fairly decent at NVIS,
where as the usual vertical won't be. I've seen dipoles at
120+ feet still be good for NVIS on 75m. And they will be
better at long paths than the lower ones.

NVIS is sky wave, it's just high angle sky wave. I've often
seen good NVIS at 25 miles or even less. And often seen poor NVIS
at 25 miles. And it can flop back and forth in thirty minutes
time. Maybe quicker in some cases.
75/80 meters can get pretty squirrely in the early evening.
It's changing from the usual short daytime sky wave, to the
longer night sky wave. And you never really know what is
going to happen for sure. I've seen short distance NVIS
propagation go from strong to nil in thirty minutes time,
and visa versa. Lots of times, it will start out pretty good
early to short distances, then go kaput for shorter distances
for a while, maybe an hour or three, and then come back later
in the evenings. I see this a lot in solar cycle minimum years
in the winter. The MUF can actually drop below 4 mhz for periods
of time between various distances.
When that happens, all the close NVIS stations will be kaput,
and about all you hear is longer path stuff..
And then two hours later, it will come back, and you'll
hear the closer stations again. It generally gets more
stable as far as the F layer, the later it gets..
Usually by midnight or so, things are starting to get

fairly stable. But even that is no guarantee that
the short skip will be good.
Sometimes when the short NVIS skip goes south on 75,
we would jump down to 160m to be able to continue
talking. Then a couple of hours later when 75 came
back as far as short paths, we would go back.
Even on 160m, it's not unheard of to skip over people
at various times. There is a often a minimum skip zone
even on that band when using sky wave paths.

It's just like rolling the dice. I spend probably 85%
of my time operating on 80 and 40 using NVIS paths, so
pretty familiar with the usual antics the bands pull.
I'm almost certain that at the time he tested the first
longer antenna, the band was kaput to that distance,
and in the time it took him to redo the antenna and
get back on the radio, the propagation came back to
those short distances. Seen it a zillion times.. :/
I'm fairly sure the antenna wasn't the problem.
In our usual regional NVIS lingo, the band was boogered
up.. :| I think the antenna will be found to be innocent
once given a fair trial.

1849. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 05:56:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F2DA23327A9Bnonenowhere@88.198.244.100>
Source record: 4250

Gary <jgboyles@aol.com> wrote in news:fa364fa2-5eba-476e-a6af-66354a902581@l18g2000yql.googlegroups.com:

>...
> I told him to short the 40M loading coils, and add enough Home Depot
> wire to each end so that the auto tuner was happy. He had a 100'
> extension cord that he cut up and got the auto tuner happy <1.5 swr.
>

The modern explanation to modern hams is that an antenna tuner is there to keep the rig "happy". Modern folk are very busy people, they just don't have time for understanding, but personification of these inanimate things is apparently appealing.

Your anecodote demonstrates though how inadequate that explanation is, whether happy rig or happy ATU.

I understand your feeling that your pride has taken a bit of a dent. Well, part of the territory when predicting antennas eh!

Next thing, someone will market a happiness meter, an SWR meter rebadged and rescaled with a percentage happiness factor. Ultimately, the slow to respond rig manufacturers could incorporate a happiness meter under the covers, perhaps a range of LCD emoticons for those who don't want to think about percentage happiness. You could turn on a proper multimedia interaction, big groan for SWR>5 etc, big cheer for <1.2... bit like those terrible computer golf games "can't be too happy about that one!!!".

Owen

1850. Re: 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 12:46:12 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <2a69e718-c438-4706-8ce1-084bc89e9dde@z7g2000vbp.googlegroups.com>
Source record: 4151

A dipole doesn't have to be without bends. Keep those bends fairly
less than 90 degrees at any one point and it should work okay. It
also doesn't have to be suspended exactly at the center feed point,
for instance, if the support isn't exactly 'centered' in your lot.
Lot's of possibilities. May not be the best in the world, or a
'classic' shape, but with a little 'fudging' here and there can
usually be made to 'fit' your available space.
- 'Doc

(Since that saying isn't literal, but a 'play on words', I doubt if
politics have much to do with the capitalizing. But then it could, if
you're of such a bent.)

1851. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 14:39:03 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <b3vq2751qlr67q18o3sjc7j549lh5sqms5@4ax.com>
Source record: 4152

On Mon, 25 Jul 2011 05:56:43 +0000 (UTC), Owen Duffy <none@no.where>
wrote:

>Next thing, someone will market a happiness meter, an SWR meter rebadged
>and rescaled with a percentage happiness factor.

Sorry, but that would be prior art:
<http://cybraphon.com/process/the-emotion-meter/>
<http://www.flickr.com/photos/cybraphon/3789780162/in/pool-917701@N24/>
<http://en.wikipedia.org/wiki/E-meter>
I worked on something similar for the audiophile industry, when I
invented an ambience and presence meter.

Personally, methinks the correct solution for such technical problems
is to virtualize everything and eliminate the antenna and radio:
<http://www.hamsphere.com>
<http://qsonet.com/programs.html>
With these, you can have all the frustration of DX, without the
expensive equipment and temperamental ionosphere.

Do try to have a better day (as measured on the emotion meter).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1852. Re: 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 15:23:57 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j0k1qo$9d9$1@dont-email.me>
Source record: 4153

On 7/25/2011 7:46 AM, 'Doc wrote:
> A dipole doesn't have to be without bends. Keep those bends fairly
> less than 90 degrees at any one point and it should work okay. It
> also doesn't have to be suspended exactly at the center feed point,
> for instance, if the support isn't exactly 'centered' in your lot.
> Lot's of possibilities. May not be the best in the world, or a
> 'classic' shape, but with a little 'fudging' here and there can
> usually be made to 'fit' your available space.
> - 'Doc
>
>
> (Since that saying isn't literal, but a 'play on words', I doubt if
> politics have much to do with the capitalizing. But then it could, if
> you're of such a bent.)

Rats! I forgot to put the smiley face at the end again.

1853. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-25 23:46:49 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <95379345-fdae-4e9e-9b64-ac7f3f572c7b@e40g2000yqn.googlegroups.com>
Source record: 4154

>
> Propagation changed I bet. I strongly suspect the antenna
> had nothing to do with it, and the extra wire and coils
> bypassed was most likely the best system regardless of
> the results seen when trying it.

I tend to agree Mark, I don't have a lot of experience on 80M, but have been a Ham for 50 years. Propagation, the thing I know least about, is the logical answer. I will encourage him to keep trying the modified antenna at various times of day to get some better data. Hopefully, it will prove the better antenna, and the newbie will learn something in the process.

Gary N4AST

1854. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-26 01:43:39 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j0l646$kk7c$1@tr22n12.aset.psu.edu>
Source record: 4155

On 7/24/2011 6:52 PM, Gary wrote:

> Not to be discouraged he removed the shorts and additional wire,

His antenna worked better because he took his shorts off?

- 73 de Mike N3LI -

1855. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-26 03:37:32 UTC
From: Sal <sobars@aol.com>
Message-ID: <j0lcq4$3qt$1@dont-email.me>
Source record: 4156

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:b3vq2751qlr67q18o3sjc7j549lh5sqms5@4ax.com...

< snip >

> I worked on something similar for the audiophile industry, when I
> invented an ambience and presence meter.

I was a Navy tech at a base in the Philippines in the early 1960s. Late one night (we were a 24-hour operation) with nothing much happening, one of the operators was in my shop, goofing with an ohmmeter. He picked it up and squeezed the leads, deflecting the needle some.

I don't know what possessed me but I told him to press the leads to his temples. It deflected a bit more. I explained that he had less resistance in his head than in his whole body, and declared him "smart" for that reason. Well, he got the joke immediately and we laughed about it. However, it didn't stop him from parading a goodly number of the watch section into my shop for Intelligence Testing. Oh, my!

"Sal"

1856. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-26 11:44:25 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <9f10a88d-1d92-49df-928d-ef86f6bc6c97@h4g2000vbw.googlegroups.com>
Source record: 4157

On Jul 25, 8:43 pm, Mike Coslo <m...@psu.edu> wrote:
> On 7/24/2011 6:52 PM, Gary wrote:
>
> > Not to be discouraged he removed the shorts and additional wire,
>
> His antenna worked better because he took his shorts off?
>
> - 73 de Mike N3LI -

It never occurred to me that he would put his underware on the loading coils. I thought he would use some wire and jumper them. Mystery solved.

Gary N4AST

1857. Re: 80 meter dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-26 20:13:20 UTC
From: whatshisname@invalid.com
Message-ID: <BdFXp.64664$Sr.24584@newsfe12.ams2>
Source record: 4158

you could make W + W instead of a V could you not?

1858. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-26 21:14:05 UTC
From: Sal <sobars@aol.com>
Message-ID: <j0nan6$r27$1@dont-email.me>
Source record: 4159

"Gary" <jgboyles@aol.com> wrote in message
news:9f10a88d-1d92-49df-928d-ef86f6bc6c97@h4g2000vbw.googlegroups.com...
On Jul 25, 8:43 pm, Mike Coslo <m...@psu.edu> wrote:
> On 7/24/2011 6:52 PM, Gary wrote:
>
> > Not to be discouraged he removed the shorts and additional wire,
>
> His antenna worked better because he took his shorts off?
>
> - 73 de Mike N3LI -

It never occurred to me that he would put his underware on the loading
coils. I thought he would use some wire and jumper them. Mystery
solved.

Gary N4AST
==========

When Gary had streched out the wire,
For the signals he hoped to acquire,
Big flames came along,
'Cause he did something wrong,
And his boxers were lost in the fire.

1859. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-27 00:00:05 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <39e7f918-0aee-454f-9cb3-77f45720cf77@a4g2000yqg.googlegroups.com>
Source record: 4160

>
> The modern explanation to modern hams is that an antenna tuner is there
> to keep the rig "happy". Modern folk are very busy people, they just
> don't have time for understanding, but personification of these
> inanimate things is apparently appealing.
>
> Your anecodote demonstrates though how inadequate that explanation is,
> whether happy rig or happy ATU.
>
> I understand your feeling that your pride has taken a bit of a dent.
> Well, part of the territory when predicting antennas eh!

The whole idea was to get the Kid on the air, and excited about Ham Radio, by making his first HF QSO with his Dad.

I think the learning will come later-he is a Patent Attorney-EE and Law degree. He impressed me Field Day when we were on an Island on a lake in South Carolina on 900 watt generator power. Had a lot of Impulse noise on RX even tho we were miles from power lines. Decided it was from the SMPS powering the Computer we were using for logging. The batteries on the Computer were good for ~1 hour, so we could not disconnect the SMPS for long.

While we were fretting over what to do, he butchered up a spent beer can, and enclosed the SMPS, dropped the noise considerably, I was impressed.

I hope he enjoys Ham Radio, in spite of my questionable advice.

Gary N4AST

1860. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-27 15:48:18 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <93c0371o9hvah7js3mcem9l3b5f036q37l@4ax.com>
Source record: 4161

On Tue, 26 Jul 2011 17:00:05 -0700 (PDT), Gary <jgboyles@aol.com>
wrote:

>I hope he enjoys Ham Radio, in spite of my questionable advice.
>Gary N4AST

Think of the experience in a different way. If ham radio propagation
were predictable and consistent, it would not be any fun. Just pickup
the microphone, set the controls, and talk to anyone in the world.
Kinda like a cell phone. It's the vaguarities of propagation, the
magic of sub-optimal antennas, and the mysteries of operation that
make ham radio fun. Considerable expense and effort, on the part of
major players and governments, to obtain reliable HF communications
has not been very successful over the years. Possibly "reliable HF"
is an oxymoron. Welcome the "kid" to the magic part of ham radio and
suggest that he adjust his expectations accordingly.

Incidentally, I usually carry a folded wad of aluminum foil for
improptu RFI/EMI shielding, probably because I don't drink beer.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1861. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-27 23:49:59 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <2f9e14a1-1d86-468f-910e-6c4f42082c11@s2g2000vbw.googlegroups.com>
Source record: 4162

On Jul 27, 10:48 am, Jeff Liebermann <je...@cruzio.com> wrote:
> On Tue, 26 Jul 2011 17:00:05 -0700 (PDT), Gary <jgboy...@aol.com>
> wrote:

>
> Incidentally, I usually carry a folded wad of aluminum foil for
> improptu RFI/EMI shielding, probably because I don't drink beer.

Good comments Jeff, I will keep them in mind next time I talk to him.

Too bad you don't drink beer, the "Learn by destroying" gets really
easy after a couple. Or maybe it is just the destroying that gets
easier.

Gary N4AST

1862. FDC FD-880 Dual Band 136-174/400-480Mhz FM Radio

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-28 12:42:38 UTC
From: Scott Smith <scott93727@gmail.com>
Message-ID: <2ee4fe5f-fce7-4131-bc77-8aaa88f598aa@v11g2000prn.googlegroups.com>
Source record: 4163

FDC FD-880 Dual Band 136-174/400-480Mhz FM Radio
http://www.409shop.com/409shop_product.php?id=106081
Special features

Dual band,dual Freq.,dual display and dual standby
Working Mode:U-V,U-U,V-V can be set freely.
Band can be set freely on the same channel:VHF TX-UHF RX or UHF TX-
VHF RX.

PTT ID function;DTMF function
Offset Freq and Freq.shift direction can be set.
Keypad lock (Auto/Manual);Busy channel lockout

Water-proof;Wired clone function
Built-in FM radio;Led flashlight
3 displaying modes selectable(CH,FREQ,CH Name)

VOX function;Stopwatch function
Priority Scan;Multiple Scan modes;Adding channel scan
Emergency Alarm function;Wired clone function

Reverse freq.function
Multipe Step frequency(5/6.25/10/12.5/25/50/100KHz)
Charging directly from the power supply.You can also
charge your radio by connecting the supplied ac adapter directly to
your radio.

Technical specifications

Model NO. FD-880(Dual-band)

General Frequency Band VHF UHF
Frequency Range 136-174MHz 400-480MHz
Channel Capacity 128
Operating Voltage 7.2V DC ±15%
Antenna Impedance 50O
Channel Spacing 12.5kHz/25kHz
Working Temperature -30 ? - +60 ?
Frequency Stability ±2.5 ppm
Size (Without Antenna) 104(W)mmx62(L)mmx36mm(D)
Weight(With Battery) about 250g
Battery 1500 mAh(Li-ion)
Transmitter RF Pwr Output 5W/4W
Modulation Type F3E
Modulation Distortion < 5%(300-3000Hz)
Max Freq Deviation < 5kHz(1000Hz When 100%)
FM Noise <=-45dB

Receiver
Sensitivity (12Db SINAD) 0.16μV
Selectivity 55dB
Adjacent Channel Selecivity >=70dB
Noise Respond >=60dB
Communication Range 3-5km(Downtown),6-20km(In the Open Area)
FM Noise 30dB/40dB
Modulation Type 8K/16KF3E
Audio Power Output 500mW When Distortion Less Than 10%
Audio Distortion < 5%
Operating Bandwidth ±3.5kHz/3.75kHz
Standby Current < 12mA

Each Set PACKAGE CONTAIN

1 x FDC FD-880 (VHF136-174 / UHF 400-480Mhz Dual Band)
1 x 7.4v 1600mAh Li-ion Battery
1 x Dual band Antenna.
1 x Belt Clip.
1 x ENG Manual
1 x Wall Charger PSU (Provide PSU plug for your Country)
1 x 12V Car Charger Cable
1 x PTT Earpiece for free

Where to buy
http://www.409shop.com/409shop_product.php?id=106081

1863. AB-952 Antenna Mast parts

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-28 13:44:24 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <f5bc99f5-0fea-4238-b217-cdbdf9be198a@r12g2000vbe.googlegroups.com>
Source record: 4164

Just in case anyone is also struggling with this problem I thought I would share how I worked it out. I have two AB-952 antenna masts. These are the thirty five foot masts that were used with a multiplexed tube radio system that provided the wonderful capacity of twenty two voice channels between major element headquarters of the Army in Korea. I have obtained an extension kit that extend the height to fifty foot. I was trying to assemble a second extension kit from parts because I couldn't find another complete extension kit.

Now to the problem. It is difficult to adapt antennas to the four inch tubes that make up the mast assembly. It is hard to find boom clamps that large. I found a source for the adapters that were used to support a different antenna than the one for which the mast was originally designed. Instead of the offset adapter that was used to support the corner reflector antenna this masts was originally designed for, I found the adapter for the dish antenna that was added to the system later. The dish adapter comes straight up out of the top of the mast and reduces in size to 2&1/4 inches outside diameter to accommodate the clamps that were on the dish reflector. That is well within the range of most of the boom to mast clamps that Hams use. I had seen these adapters only in manuals but I was picking up an extension kit, that Ben at Ontario Surplus helped me locate, from another surplus dealer and recognized the adapters that he had in stock. The dealers name is Tim Clark. He's in Lyndon, MD. He can be reached via [glengar comat verizon period net]. For those who do not recognize the term comat it is the "commercial and" that we all call at. If your into military stuff he has quite a lot of other GI stuff as well. My only relationship with Tim is that he has now supplied me with the parts to complete my AB-952 Mast assemblies at a very manageable cost after I was on the verge of giving up on ever completing them.

It took five years of patient searching but now both masts are complete. They allow me to hoist any of the smaller beams to fifty feet off the ground and to use the newly found adapters to attach a rotor or to directly attach a boom clamp and aim by turning the mast assembly from the ground using the strap wrench which is part of the basic mast accessory kit. These masts are really quite useful for any kind of field deployment such as field day, Boy Scout Jamboree on the air, public service events, and the list goes on.

I just thought that someone else might be working with these mast assemblies and could use help finding a good source of parts.

73
--
Tom Horne, W3TDH

1864. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-28 17:31:57 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <g66337psb65i07m167k41m04l4i31cn7df@4ax.com>
Source record: 4165

On Wed, 27 Jul 2011 16:49:59 -0700 (PDT), Gary <jgboyles@aol.com>
wrote:

>Too bad you don't drink beer, the "Learn by destroying" gets really
>easy after a couple. Or maybe it is just the destroying that gets
>easier.

Well, the slogan is not quite what it seems. I was graduation from
Cal Poly Pomona back in the days when the skool slogan was "Learn By
Doing". The basic education plan was to get as much hands on
experience for the undergrads as possible. We modified the slogan to
"Learn by Destroying" which had more than a little truth to it. I
discovered quickly that the easiest way to understand how something
works is to (accidentally) break it, and then desperately attempt to
fix it before I'm discovered. It's a great way to learn, but does
tend to get rather expensive. A less drastic version is sometimes
called "sensitivity analysis" where one uses or installs a device in
some manner in which it was never intended to function in an attempt
to see how sensitive it is to installation and operation creativity.
This works well with antennas, where there are almost an infinite
number of ways to do it and still have it function.

We have some local hams that have never removed the screws from their
radios and looked inside. I often do this for them, while they
complain about warranty and loss of resale value. Tearing the radio
apart and giving them a tour of the guts (sometimes at radio club
meetings) is also fun (to watch them sweat).

You now have the unenviable task of acting as mentor to this new ham,
who apparently has the potential for more than minimal understanding
and knowledge. You may soon find yourself doing some furious reading
(or Googling) in order to just keep up with him. I've done this a few
times, where my usefulness eventually ends when the new ham tells me I
don't know anything. I just smile, and await the next victim.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1865. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-28 18:42:10 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j0sai6$61m$1@dont-email.me>
Source record: 4166

On 7/26/2011 6:44 AM, Gary wrote:
> On Jul 25, 8:43 pm, Mike Coslo<m...@psu.edu> wrote:
>> On 7/24/2011 6:52 PM, Gary wrote:
>>
>>> Not to be discouraged he removed the shorts and additional wire,
>>
>> His antenna worked better because he took his shorts off?
>>
>> - 73 de Mike N3LI -
>
> It never occurred to me that he would put his underware on the loading
> coils. I thought he would use some wire and jumper them. Mystery
> solved.
>
> Gary N4AST

He probably wet them first.

John KD5YI

1866. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-28 19:41:56 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j0se23$gc44$1@tr22n12.aset.psu.edu>
Source record: 4167

On 7/28/2011 2:42 PM, John S wrote:
> On 7/26/2011 6:44 AM, Gary wrote:
>> On Jul 25, 8:43 pm, Mike Coslo<m...@psu.edu> wrote:
>>> On 7/24/2011 6:52 PM, Gary wrote:
>>>
>>>> Not to be discouraged he removed the shorts and additional wire,
>>>
>>> His antenna worked better because he took his shorts off?
>>>
>>> - 73 de Mike N3LI -
>>
>> It never occurred to me that he would put his underware on the loading
>> coils. I thought he would use some wire and jumper them. Mystery
>> solved.
>>
>> Gary N4AST
>
> He probably wet them first.

That's a time honored method of getting a better ground for your radials.

- 73 de Mike N3LI -

1867. Re: Antenna Magic

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-28 19:46:27 UTC
From: amdx <amdx@knology.net>
Message-ID: <aed1c$4e31bc96$18ec6dd7$5258@KNOLOGY.NET>
Source record: 4168

On 7/28/2011 12:31 PM, Jeff Liebermann wrote:
> On Wed, 27 Jul 2011 16:49:59 -0700 (PDT), Gary<jgboyles@aol.com>
> wrote:
>
>> Too bad you don't drink beer, the "Learn by destroying" gets really
>> easy after a couple. Or maybe it is just the destroying that gets
>> easier.
>
> Well, the slogan is not quite what it seems. I was graduation from
> Cal Poly Pomona back in the days when the skool slogan was "Learn By
> Doing". The basic education plan was to get as much hands on
> experience for the undergrads as possible. We modified the slogan to
> "Learn by Destroying" which had more than a little truth to it. I
> discovered quickly that the easiest way to understand how something
> works is to (accidentally) break it, and then desperately attempt to
> fix it before I'm discovered. It's a great way to learn, but does
> tend to get rather expensive. A less drastic version is sometimes
> called "sensitivity analysis" where one uses or installs a device in
> some manner in which it was never intended to function in an attempt
> to see how sensitive it is to installation and operation creativity.
> This works well with antennas, where there are almost an infinite
> number of ways to do it and still have it function.
>
> We have some local hams that have never removed the screws from their
> radios and looked inside. I often do this for them, while they
> complain about warranty and loss of resale value. Tearing the radio
> apart and giving them a tour of the guts (sometimes at radio club
> meetings) is also fun (to watch them sweat).
>
> You now have the unenviable task of acting as mentor to this new ham,
> who apparently has the potential for more than minimal understanding
> and knowledge. You may soon find yourself doing some furious reading
> (or Googling) in order to just keep up with him. I've done this a few
> times, where my usefulness eventually ends when the new ham tells me I
> don't know anything. I just smile, and await the next victim.
>
>
Ego suppression is a very useful tool!
Mikek

1868. Automatic antenna tuners

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-31 20:30:17 UTC
From: ehoops <emmett.hoops@gmail.com>
Message-ID: <2bb452d8-e127-42a6-bbb0-a3888bf73e54@m18g2000vbl.googlegroups.com>
Source record: 4169

I'm getting back into radio after a 20 year absence. Back then, I had a QRP rig and a novice license; didn't worry too much about my antenna unless the SWR meter went past 2.5. What I did not have was an antenna tuner.

Now that I'm older and wiser, I realize an antenna tuner is probably a necessary thing to have. I'm putting up an 18' Hy-gain 5 band vertical antenna, leading to a Yaesu FT840 @ 100 watts. The matching ATT is not available, unless I'm willing to bid on E-bay for a hundred more than it cost new. (Believe me, I've tried this.) But I don't know what I should use. I know some tuners are designed for a specific rig.

Does anyone know what I should get? I'd really just like to turn on the radio, move to a frequency, turn on the ATT, and tap away. Help!

1869. Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-31 20:32:57 UTC
From: KD2AIP <emmett.hoops@gmail.com>
Message-ID: <e5bba3fc-510d-49a2-b392-c9b63e539606@eb1g2000vbb.googlegroups.com>
Source record: 4170

Anyone have experience making a dipole from 18 gauge speaker wire? I have a whole lot of it lying around the house, and was wondering if I could put it to some good use.

1870. Re: Automatic antenna tuners

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-31 20:56:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F3446A84C3C0nonenowhere@88.198.244.100>
Source record: 4171

ehoops <emmett.hoops@gmail.com> wrote in news:2bb452d8-e127-42a6-bbb0-a3888bf73e54@m18g2000vbl.googlegroups.com:

...
> Does anyone know what I should get? I'd really just like to turn on
> the radio, move to a frequency, turn on the ATT, and tap away. Help!
>

Firstly, is an ATU really necessary with your antenna. One of the selling points of these kind of antennas is that they are a fair match to 50 ohm line... though an ATU might overcome to some extent the narrow bandwidth on the lowest bands.

Next, there are a range of generic automatic ATUs, they fall broadly into those intended to go into a coaxial line and those intended to feed unbalanced loads like end fed wires, monopoles etc. The each have different matching ranges and applications.

Some of these generic auto ATUs can be interfaced to proprietary ATU interfaces on transceivers. Some transceiver support for ATUs is quite poor and might be construed as a marketing ploy, eg most Icom transceivers seem to abort a tune process after about 18s, so they do not integrate well with an ATU that might take 30s to find a match.

This lack of open interface, and flexible support is a problem. I attempted to design a protocol converter to properly integrate an SGC237 with an Icom radio, but I abandoned it because the SGC cannot be guaranteed to complete within 18s, and if it has to restart, it restarts from scratch and the same problem occurs. On the other hand, I was able to make a reliable protocol converter for a 'screwdriver' type ATU, as in the rare circumstance that the tune had not completed when the Icom aborted, the coil contact was closer to the desired point and in tests, always completed on the next attempt.

So, in my experience, Icoms work reliably with Icom ATUs, but have issues with some non-proprietary ATUs. This is why I say that ATU support is used as a marketing ploy.

Owen

1871. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-31 21:02:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F344798848ABnonenowhere@88.198.244.100>
Source record: 4172

KD2AIP <emmett.hoops@gmail.com> wrote in news:e5bba3fc-510d-49a2-b392-c9b63e539606@eb1g2000vbb.googlegroups.com:

> Anyone have experience making a dipole from 18 gauge speaker wire? I
> have a whole lot of it lying around the house, and was wondering if I
> could put it to some good use.

If it is copper wire, it is more suitable than many things proposed for antenna conductor, though annealed copper is relatively low strength material.

Opinions vary, but wire insulation contributes little, if any, strength, but substantially increases wind resistance and mass, so it compromises the ability to withstand high winds.

The next question often asked in your situation is whether the speaker wire makes a good feedline. Contrary to popular belief, PVC insulated figure-8 cable is not a good feedline for HF antennas.

Owen

PS: hams universally ignore the guidance of NFPA 70 which makes recommendation on conductors for antennas.

1872. Re: Automatic antenna tuners

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-31 21:06:41 UTC
From: Sal <sobars@aol.com>
Message-ID: <j14g58uco1@dont-email.me>
Source record: 4173

"ehoops" <emmett.hoops@gmail.com> wrote in message
news:2bb452d8-e127-42a6-bbb0-a3888bf73e54@m18g2000vbl.googlegroups.com...
> I'm getting back into radio after a 20 year absence. Back then, I had
> a QRP rig and a novice license; didn't worry too much about my antenna
> unless the SWR meter went past 2.5. What I did not have was an
> antenna tuner.
>
> Now that I'm older and wiser, I realize an antenna tuner is probably a
> necessary thing to have. I'm putting up an 18' Hy-gain 5 band
> vertical antenna, leading to a Yaesu FT840 @ 100 watts. The matching
> ATT is not available, unless I'm willing to bid on E-bay for a hundred
> more than it cost new. (Believe me, I've tried this.) But I don't
> know what I should use. I know some tuners are designed for a
> specific rig.
>
> Does anyone know what I should get? I'd really just like to turn on
> the radio, move to a frequency, turn on the ATT, and tap away. Help!

I have an internal autotuner but one ham buddy uses an LDG auto tuner for
100 watts and he's happy with it. (He uses a high-power manual tuner if
he's using his amp.) http://www.ldgelectronics.com/

Some models, LDG or other, may be more suited to the FT-810; some radios
have a <TUNE> button that talks to the tuner via a custom cable, while
putting out Tune Power, about 10 watts. Otherwise, there should be no great
difficulty in you dialling up a tune power output and invoking the <TUNE>
finction on the tuner.

Good luck, OM

1873. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-31 22:09:06 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j14jq9$p24$1@dont-email.me>
Source record: 4174

On 7/31/2011 4:02 PM, Owen Duffy wrote:

> Owen
>
> PS: hams universally ignore the guidance of NFPA 70 which makes
> recommendation on conductors for antennas.

Maybe because NFPA 70 costs $150 US?

John

1874. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-07-31 22:26:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F3455E8337DFnonenowhere@88.198.244.100>
Source record: 4175

John S <sophi.2@invalid.org> wrote in news:j14jq9$p24$1@dont-email.me:

>
> Maybe because NFPA 70 costs $150 US?
>

Yes, standards are expensive things and it is a frustration when researching.

Anyway, NFPA makes recommendation on the wires for ham antennas specifically, and it may be binding in some places.

I suspect the reason for ignoring it is that the advice is unaccepable to most hams.

That said, it does seem over the top in some areas, and is hardly comprehensive in its thinking. For example, the prescription for feedlines seems to not be aware of the existence and use of coax.

I guess it is these gaps that give critics the basis for arguing against the whole thing.

Anyway, in respect of antenna wires, it does not 'permit' annealled copper or other low strength materials, and it 'requires' a minimum conductor diameter of #14 for up to 150' span.

They may have had in mind the risk to persons and property where low strength conductor are broken in high wind and make contact with power lines.

Owen

1875. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 01:07:16 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j14u8a$i0g$1@dont-email.me>
Source record: 4176

"KD2AIP" wrote in message
news:e5bba3fc-510d-49a2-b392-c9b63e539606@eb1g2000vbb.googlegroups.com...

>Anyone have experience making a dipole from 18 gauge speaker wire? I
>have a whole lot of it lying around the house, and was wondering if I
>could put it to some good use.
-
Should work fine with the caveats of added weight from the insulation, etc.

Some years ago, there was a QST article written by a ham who built a 20
meter quad using insulated wire. He found that it changed the expected
resonance, IIRC downward. So you may have to play with the length a little
more than expected from the calculated lengths.

1876. J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 02:49:54 UTC
From: ogrowup@webtv.net
Message-ID: <3007-4E361452-574@storefull-3173.bay.webtv.net>
Source record: 4177

Recently acquired a 50W 2 meter rig, and I'm wondering if using aJ-pole
made of 300-ohm twin lead as an emegency antenna would be feasable..or
would the rig be tuned for maximum smoke?

--
"The French have neither summer nor winter nor morals." -- Mark Twain

1877. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 03:51:20 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <QopZp.112808$8G4.95089@newsfe17.iad>
Source record: 4178

This topic is likely to spur a lot of discussion. For a while two of us
were using zip cord
which in itself is frequently used as speaker wire.

Mine was strung across and somewhat around the back yard to I could work 75m
and up with a tuner.
George, VE6VA surprised me when I noticed he had a feedling going out of his
shack -- it was cloth covered line cord! Both of us had lots of fun on the
bands.
I should add that my transmission line and both halves of the dipole were
made
from one piece of line cord/speaker wire -- I just brought the end of the
transmission
line into a plastic wire-tie, and fed the lines around the yard, using a
couple
tree branches and a small pole on the garage. The other dipole half was
just
long enough to reach the front of the house where it was then suspended
by a small lilac bush and a tall fir tree. End insulators were just bits of
scrap plastic and both ends were suspended with a long string of short
and medium pieces tied together! From experience I think that I can
generalize that you matter how much nylon line a ham buys, in time
it degenerates into a wide assortment of randomly short lengths, none
of which alone can serve any purpose!

After 50 plus years of hamming fun, I have come to the conclusion that
anything with a little metal in it will serve as an antenna if you hook it
up in the right manner. It has truly surprised me over the years just
how little antenna I had, and how far it was getting out.

Some antenna's will work better than others, and eventually every
ham, whose expectations eventually approch infinity will want to try
a 'better antenna'. Aside from collecting materials, and it doesn't
take much to make a dipole, once you know where you can string
your wires, it's easy to try a variety of antennas. In the long run
you will probably find that a half wave dipole will do the best,
and if you can drop the ends, changing it into an inverted-Vee
you will have near omnidirectional operation on the higher bands.

Antennas, discussed here have impedance, Jx+something or other, specific
lengths,
and so many rules that your life as a ham will make you miserable
when you dare approach the shack. Throw an arrow into the
air (throw an antenna into the air), suspend it here and there, and
then see if it works. If it does, Great! -- If it doesn't -- well, try

something else. Chances are you will have so much fun that
you postpone tidying up the knots, but some of those things
stay up for ever until their age approaches that of a typical
old fogie antenna fussy, Smith chart interpreter, know-it-
all hams, like most of us here

Antennas are funny people!

Get the wire up, have a ball!

Irv
VE6BP, Calgary

Political correctness is a doctrine, fostered by a delusional, illogical
minority, and rapidly promoted by an unscrupulous mainstream media, which
holds forth the proposition that it is entirely possible to pick up a piece
of poop by the clean end.

"KD2AIP" <emmett.hoops@gmail.com> wrote in message
news:e5bba3fc-510d-49a2-b392-c9b63e539606@eb1g2000vbb.googlegroups.com...
> Anyone have experience making a dipole from 18 gauge speaker wire? I
> have a whole lot of it lying around the house, and was wondering if I
> could put it to some good use.
>

1878. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 04:33:36 UTC
From: Sal <sobars@aol.com>
Message-ID: <j15ab7$a92$1@dont-email.me>
Source record: 4179

"Padraigh ProAmerica" <ogrowup@webtv.net> wrote in message
news:3007-4E361452-574@storefull-3173.bay.webtv.net...
> Recently acquired a 50W 2 meter rig, and I'm wondering if using aJ-pole
> made of 300-ohm twin lead as an emegency antenna would be feasable..or
> would the rig be tuned for maximum smoke?
>
> --
> "The French have neither summer nor winter nor morals." -- Mark Twain
>

Search at google.com for twin lead j pole; twinlead jpole; jpole twinlead;
j pole twin-lead or some such combination. I found approximately 137,000
search returns whichever way I tried it. You didn't.

Afterward, search for the correct version of your insult against France.
It's misquoted.

1879. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 05:06:09 UTC
From: Sal <sobars@aol.com>
Message-ID: <j15c89ifm1@dont-email.me>
Source record: 4180

"KD2AIP" <emmett.hoops@gmail.com> wrote in message
news:e5bba3fc-510d-49a2-b392-c9b63e539606@eb1g2000vbb.googlegroups.com...
> Anyone have experience making a dipole from 18 gauge speaker wire? I
> have a whole lot of it lying around the house, and was wondering if I
> could put it to some good use.

My favored gauges are 12 and 14. I took a dipole I modeled in EZNEC
(Evaluation Version) and changed from 12 gauge to 18 gauge. The behavior of
the antenna changed dramatically.

No, I'm kidding. EZNEC showed insignificant shifts in VSWR and gain at
optimum takeoff angle. You apparently face only mechanical issues. If the
wire parts when you pull it up, you'll need to connect it to a stout span
line.

I have two 20m dipoles hanging, one with a span line and one free-hanging.
They were both temporary ... last year.

"Sal"
Champion Procrastinator

1880. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 05:58:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F34A27823118nonenowhere@88.198.244.100>
Source record: 4181

"Irv Finkleman" <finkirv@shaw.ca> wrote in
news:QopZp.112808$8G4.95089@newsfe17.iad:

...
> I should add that my transmission line and both halves of the dipole
> were made
> from one piece of line cord/speaker wire

Yes, I freely admit that I was a sucker who implemented that type of antenna system on the advice of mentors.

Since learning those j thingies that you deride, I have come to learn enough to quantify the sacrifice in performance.

Yes, it 'works', whatever that means!

One way to make sure newbies never challenge you is to lead them down the same misdirected paths as yourself in the hope that they never catch up.

Whilst there are those who glibly recite that "any antenna is better than no antenna at all", it is also true that you might work stations on any antenna, just you will work more on a better antenna.

I know that dumbing down the hobby is the fashionable trend, deride those who see ham radio as an essentially techical exploit as the new age ham is embarking on a social experience, just the connectivity is several orders of magnitude below those of most social network appliances. Whilst cutting edge hams are breaking DX records with things like WSPR at <0.5bps, kids are socialising on mobile phones at greater than 10Mbps.

When you take the passion for understanding the technology out of ham radio, it just doesn't compete.

Owen

1881. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 06:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1312178401@panix.com>
Source record: 4182
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

1882. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 06:02:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F34A3308F4AAnonenowhere@88.198.244.100>
Source record: 4183

"Sal" <sobars@aol.com> wrote in news:j15c89ifm1@dont-email.me:

> I have two 20m dipoles hanging, one with a span line and one
> free-hanging. They were both temporary ... last year.

Sal, there would be those who would chide you that such an antenna obviously wasn't big enough... in the sense that "if it didn't blow down last season, it wasn't big enough".

And we wonder why so many housing block have restictive covenants that are not ham friendly. We might just have bought that on ourselves to some extent.

Owen

1883. Re: Automatic antenna tuners

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 10:26:19 UTC
From: david <none@nospam.com>
Message-ID: <j15v0b$j5g$1@dont-email.me>
Source record: 4184

On Sun, 31 Jul 2011 13:30:17 -0700, ehoops rearranged some electrons to say:

> I'm getting back into radio after a 20 year absence. Back then, I had a
> QRP rig and a novice license; didn't worry too much about my antenna
> unless the SWR meter went past 2.5. What I did not have was an antenna
> tuner.
>
> Now that I'm older and wiser, I realize an antenna tuner is probably a
> necessary thing to have. I'm putting up an 18' Hy-gain 5 band vertical
> antenna, leading to a Yaesu FT840 @ 100 watts. The matching ATT is not
> available, unless I'm willing to bid on E-bay for a hundred more than it
> cost new. (Believe me, I've tried this.) But I don't know what I
> should use. I know some tuners are designed for a specific rig.
>
> Does anyone know what I should get? I'd really just like to turn on the
> radio, move to a frequency, turn on the ATT, and tap away. Help!

I agree with Sal, LDG makes a good product. I have a Z11Pro2. It doesn't require any interface with the radio, it measures the incoming RF and antenna side SWR to know when to tune. It also latches the settings, so it stays set up even if I take power off of it (which I do when I'm not trying to tune it).

1884. Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 12:29:35 UTC
From: Dave <me@me.com>
Message-ID: <j1667d$4p9$1@speranza.aioe.org>
Source record: 4185

Hello, I'm about to fix a 20 foot aluminium pole to a couple T+K standoff brackets about 1.5meters apart and standoff about 16 inchs I'm wondering what size of Rawbolts to use ?? I'm think 12mm ??? Oh yes on the pole would be a 2/70cm co-liner and a 66ft longwire on a pulley no great size or weight

Any advise links would be good !

Thanks

1885. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 20:38:28 UTC
From: Kevin <wb5rue@yahoo.com>
Message-ID: <g9EZp.48234$Mo3.1166@newsfe15.iad>
Source record: 4186

"Sal" <sobars@aol.com> wrote in message news:j15ab7$a92$1@dont-email.me...
>
> "Padraigh ProAmerica" <ogrowup@webtv.net> wrote in message
> news:3007-4E361452-574@storefull-3173.bay.webtv.net...
>> Recently acquired a 50W 2 meter rig, and I'm wondering if using aJ-pole
>> made of 300-ohm twin lead as an emegency antenna would be feasable..or
>> would the rig be tuned for maximum smoke?
>>
>> --
>> "The French have neither summer nor winter nor morals." -- Mark Twain
>>
>
> Search at google.com for twin lead j pole; twinlead jpole; jpole
> twinlead; j pole twin-lead or some such combination. I found
> approximately 137,000 search returns whichever way I tried it. You
> didn't.
>
> Afterward, search for the correct version of your insult against France.
> It's misquoted.

To answer your question Pad,
Yes, 300 ohm feed line will do quite well for 2 meters at 50 watts IF it's
made correctly and you have a good match.

Kevin, WB5RUE

Quoted correctly or not it's still accurate.

1886. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-01 23:02:31 UTC
From: NM5K <none@invalid.net>
Message-ID: <j17bad$6p3$1@dont-email.me>
Source record: 4187

On 7/31/2011 9:49 PM, Padraigh ProAmerica wrote:
> Recently acquired a 50W 2 meter rig, and I'm wondering if using aJ-pole
> made of 300-ohm twin lead as an emegency antenna would be feasable..or
> would the rig be tuned for maximum smoke?
>

They say it can be done... Not my choice though. I prefer simple 1/4 wave ground planes as simple emergency or temporary antennas.
IE: a 1/4 wave ground plane can be made with five pieces of wire and an SO-239 connector. Or a telescoping whip that can extend that far, and four pieces of stiff wire for radials, which would be bent out at about 45 degrees.
I think the 1/4 wave ground plane will be a better decoupled antenna vs the usual J-pole, assuming no other decoupling methods are applied.
Another advantage is no matching schemes are required.

1887. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 00:42:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j17h52$rh7$1@news.jpl.nasa.gov>
Source record: 4190

On 7/31/2011 2:02 PM, Owen Duffy wrote:

>
> PS: hams universally ignore the guidance of NFPA 70 which makes
> recommendation on conductors for antennas.

Are you saying the electrical code is sort of like the pirate code? more guidelines than actual requirements?

I think the way that hams can rationalize it is that most wire antennas (particularly those made with fine wire) are, by their nature, "temporary installations". The finer the wire, the more temporary.

1888. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 00:51:03 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j17hln$rm7$1@news.jpl.nasa.gov>
Source record: 4189

On 7/31/2011 3:09 PM, John S wrote:
> On 7/31/2011 4:02 PM, Owen Duffy wrote:
>
>> Owen
>>
>> PS: hams universally ignore the guidance of NFPA 70 which makes
>> recommendation on conductors for antennas.
>
> Maybe because NFPA 70 costs $150 US?
>
> John

Free at the library, and at various sites for California Title 24.
http://rrdocs.nfpa.org/rrserver/browser?title=/NFPACA/CaliforniaElectricalCode2010

And the sections on antennas are widely quoted. I don't think cost of a
copy of the code is why hams don't follow it.

here you go:
II Receiving Equipment - Antenna Systems
Article 810.16 Size of Wire-Strung Antenna -Receiving Station
(A) Size of Antenna Conductors. Outdoor antenna conductors for
receiving stations shall be of a size not less than given in Table 810.16(A)
Table 810.16(A) Size of Receiving Station Outdoor Antenna Conductors
Minimum size of Conductors (AWG) where Maximum Open Span Length is:
Less than 11m 11m to 45m Over 45m
Al Alloy, hard
drawn copper 19 14 12

Cu Clad Steel,
Bronze, other high
strength matl 20 17 14

Or
III Amateur Transmitting and Receiving Stations - Antenna Systems
less than 45 m over 45 m
Hard drawn copper AWG 14 AWG 10
CCS, bronze, etc. AWG 14 AWG 12

1889. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 00:52:17 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j17ho1$rm7$2@news.jpl.nasa.gov>
Source record: 4188

On 7/31/2011 3:26 PM, Owen Duffy wrote:
> John S<sophi.2@invalid.org> wrote in news:j14jq9$p24$1@dont-email.me:
>
>>
>> Maybe because NFPA 70 costs $150 US?
>>
>
> Yes, standards are expensive things and it is a frustration when
> researching.
>
> Anyway, NFPA makes recommendation on the wires for ham antennas
> specifically, and it may be binding in some places.
>
> I suspect the reason for ignoring it is that the advice is unaccepable
> to most hams.
>
> That said, it does seem over the top in some areas, and is hardly
> comprehensive in its thinking. For example, the prescription for
> feedlines seems to not be aware of the existence and use of coax.

You refer to the "continuously enclosed metallic shield", I suspect.

>
> I guess it is these gaps that give critics the basis for arguing against
> the whole thing.
>
> Anyway, in respect of antenna wires, it does not 'permit' annealled
> copper or other low strength materials, and it 'requires' a minimum
> conductor diameter of #14 for up to 150' span.
>
> They may have had in mind the risk to persons and property where low
> strength conductor are broken in high wind and make contact with power
> lines.
>

That is precisely why. (ice loads, too)

1890. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 01:06:42 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j17iiu$jg5e$1@tr22n12.aset.psu.edu>
Source record: 4191

On 8/1/2011 4:38 PM, Kevin wrote:

> Kevin, WB5RUE
>
> Quoted correctly or not it's still accurate.

Ahh, the brothership of Hams - Good to see a friendly face here Kevin.

- Mike N3LI -

1891. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 01:11:31 UTC
From: Kevin <wb5rue@yahoo.com>
Message-ID: <g9lZp.44430$z67.41342@newsfe10.iad>
Source record: 4192

"NM5K" <none@invalid.net> wrote in message
news:j17bad$6p3$1@dont-email.me...
> On 7/31/2011 9:49 PM, Padraigh ProAmerica wrote:
>> Recently acquired a 50W 2 meter rig, and I'm wondering if using aJ-pole
>> made of 300-ohm twin lead as an emegency antenna would be feasable..or
>> would the rig be tuned for maximum smoke?
>>
>
> They say it can be done... Not my choice though. I prefer simple 1/4 wave
> ground planes as simple emergency or temporary antennas.
> IE: a 1/4 wave ground plane can be made with five pieces of wire
> and an SO-239 connector. Or a telescoping whip that can extend that
> far, and four pieces of stiff wire for radials, which would be bent
> out at about 45 degrees.
> I think the 1/4 wave ground plane will be a better decoupled antenna
> vs the usual J-pole, assuming no other decoupling methods are applied.
> Another advantage is no matching schemes are required.
>

You have a point Mark. I agree that a simple 1/4 wave groundplane is more
study and very easy to make using an so-239 and some piano wire. Steel wire
can be soldered right into the back, four bolts with nuts and four more
peaces of wire around 19" long with a bit of a downward bend and you have a
very good antenna.

Kevin, WB5RUE

1892. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 01:13:20 UTC
From: Kevin <wb5rue@yahoo.com>
Message-ID: <_aIZp.30822$tp.27979@newsfe06.iad>
Source record: 4193

At least it's good to see that my posts are making it out! ;)

The French, in the cities tend to be rude and arrogant -- kind of like New York City but worse. In the smaller towns they are quite pleasant and welcome tourists as long as they don't act like "rude Americans" and expect "special treatment."

Kevin, WB5RUE

"Mike Coslo" <mjc5@psu.edu> wrote in message news:j17iiu$jg5e$1@tr22n12.aset.psu.edu...
> On 8/1/2011 4:38 PM, Kevin wrote:
>
>> Kevin, WB5RUE
>>
>> Quoted correctly or not it's still accurate.
>
>
> Ahh, the brothership of Hams - Good to see a friendly face here Kevin.
>
>
> - Mike N3LI -
>

1893. Re: Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 01:39:36 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <j17kgp$9k0o$1@tr22n12.aset.psu.edu>
Source record: 4194

On 8/1/2011 8:29 AM, Dave wrote:
> Hello, I'm about to fix a 20 foot aluminium pole to a couple T+K
> standoff brackets about 1.5meters apart and standoff about 16 inchs I'm
> wondering what size of Rawbolts to use ?? I'm think 12mm ??? Oh yes on
> the pole would be a 2/70cm co-liner and a 66ft longwire on a pulley no
> great size or weight
>
> Any advise links would be good !
>
> Thanks
>
>
I think that 12mm will be just fine. I'm in the US and some of your terminology is a bit obscure to me, in particular "rawbolts" and "T+K standoff". But I'm bilingual, I speak inches and meters so bolts of that size should hold that short of mast up just fine if the standoffs are up to the task.

John W3JXP

1894. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 03:08:01 UTC
From: tom <news4792@taring.org>
Message-ID: <4e376a11$0$79798$8046368a@newsreader.iphouse.net>
Source record: 4195

On 7/31/2011 9:49 PM, Padraigh ProAmerica wrote:
> Recently acquired a 50W 2 meter rig, and I'm wondering if using aJ-pole
> made of 300-ohm twin lead as an emegency antenna would be feasable..or
> would the rig be tuned for maximum smoke?
>

It won't smoke if the antenna is tuned, but you could get burned from
the rig or mic.

Those antennas need to have serious choking done on the feedline, at
least 2 a quarter wave apart on the feed just before the antenna.

Doing so helps make the pattern more like what is expected and reduces
hot radio and mic issues.

tom
K0TAR

1895. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 04:02:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F358EE60B873nonenowhere@88.198.244.100>
Source record: 4196

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:j17hln$rm7$1@news.jpl.nasa.gov:

...
> III Amateur Transmitting and Receiving Stations - Antenna Systems
> less than 45 m over 45 m
> Hard drawn copper AWG 14 AWG 10
> CCS, bronze, etc. AWG 14 AWG 12

Examples 7 and 8 in the catenary calculator at
http://vk1od.net/calc/awcc/awcc.htm use #14 and #10 HDC. Readers can
explore the survivability of wind and ice with the calculator.

If I model a 45m simple span of #14 HDC at the lowest wind speeds
applicable to the design of structures in this jurisdiction, using the
mandated safety factor, the minimum sag is about 5% of span, about as
large as it typically practical for such a span.

NFPA 70 does not apply in VK, though there are standards that apply and
the answer comes up pretty much the same, just there is more freedom in
engineering shorter spans.

Owen

1896. Re: Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 08:42:28 UTC
From: Dave <me@me.com>
Message-ID: <j18d9i$oa8$1@speranza.aioe.org>
Source record: 4197

"John Passaneau" <w3jxp@arrl.net> wrote in message
news:j17kgp$9k0o$1@tr22n12.aset.psu.edu...
> On 8/1/2011 8:29 AM, Dave wrote:
>> Hello, I'm about to fix a 20 foot aluminium pole to a couple T+K
>> standoff brackets about 1.5meters apart and standoff about 16 inchs I'm
>> wondering what size of Rawbolts to use ?? I'm think 12mm ??? Oh yes on
>> the pole would be a 2/70cm co-liner and a 66ft longwire on a pulley no
>> great size or weight
>>
>> Any advise links would be good !
>>
>> Thanks
>>
>>
> I think that 12mm will be just fine. I'm in the US and some of your
> terminology is a bit obscure to me, in particular "rawbolts" and "T+K
> standoff". But I'm bilingual, I speak inches and meters so bolts of that
> size should hold that short of mast up just fine if the standoffs are up
> to the task.
>
> John W3JXP

Thanks John, You've already guessed I think that I'm in the UK where we seem to mix up units of everything quite happily millimetres', inch's, pints, litres, Km, miles

Anyway back on topic the T+K bracketts are just the shape T at the top and K shape at the bottom. One thing I forgot to add was the wall type it's a 'breeze block' construction or cemet block I think that's a cinder block in the US, and the wall has a filled cavity.

Dave G6ZKC

1897. Re: Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 09:23:34 UTC
From: CW <cmagersss@earthlink.net>
Message-ID: <x96dne0XnIaBX6rTnZ2dnUVZ_tmdnZ2d@earthlink.com>
Source record: 4198

On 8/1/2011 6:39 PM, John Passaneau wrote:
> On 8/1/2011 8:29 AM, Dave wrote:
>> Hello, I'm about to fix a 20 foot aluminium pole to a couple T+K
>> standoff brackets about 1.5meters apart and standoff about 16 inchs I'm
>> wondering what size of Rawbolts to use ?? I'm think 12mm ??? Oh yes on
>> the pole would be a 2/70cm co-liner and a 66ft longwire on a pulley no
>> great size or weight
>>
>> Any advise links would be good !
>>
>> Thanks
>>
>>
> I think that 12mm will be just fine. I'm in the US and some of your
> terminology is a bit obscure to me, in particular "rawbolts" and "T+K
> standoff". But I'm bilingual, I speak inches and meters so bolts of that
> size should hold that short of mast up just fine if the standoffs are up
> to the task.
>
> John W3JXP

It's Rawlbolt. It is a brand of expanding anchor.

1898. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 10:14:45 UTC
From: darleyput@notquite.com
Message-ID: <w6QZp.56014$wK7.4079@newsfe13.ams2>
Source record: 4199

Stainless steel mig welding wire.
Any reason why this won't work as a wire antenna?
Very strong, fairly cheap, but doesn't like kinks.

'I personally think Ray Davies wrote some very good songs.'

http://en.wikipedia.org/wiki/Ray_Davies

1899. Re: Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 10:25:18 UTC
From: me9@privacy.net
Message-ID: <51FC65E5BE%brian13434@lycos.co.uk>
Source record: 4053

On 2 Aug,
"Dave" <me@me.com> wrote:

> Anyway back on topic the T+K bracketts are just the shape T at the top and
> K shape at the bottom. One thing I forgot to add was the wall type it's a
> 'breeze block' construction or cemet block I think that's a cinder block in
> the US, and the wall has a filled cavity.

I used 10mm resin anchors for a similar installation into brick, they have
the advantage of being less likely to crack the brick as compared to
expanding/rawl bolts. Breeze block is a dubious material, depending on it's
strength it may or may not be ok. If it is a dense concrete block you should
be ok, but I'd recommend resin type anchors anyway. I got mine from screwfix.
--
BD
Change lycos to yahoo to reply

1900. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 10:30:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F35D09205727nonenowhere@88.198.244.100>
Source record: 4200

<darleyput@notquite.com> wrote in news:w6QZp.56014$wK7.4079@newsfe13.ams2:

> Stainless steel mig welding wire.
> Any reason why this won't work as a wire antenna?
> Very strong, fairly cheap, but doesn't like kinks.

It is small diameter, high resistivity material. If it is magnetic, even worse.

I depends on its length, and the current flowing.

The article http://vk1od.net/antenna/conductors/loss.htm includes an example of 316 SS MIG wire.

It is great for stealth antennas, actually doubly so, because not only is it hard to see, it is hard to hear.

Owen

1901. BCL Receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 10:33:04 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <j18jp3$t3q$1@dont-email.me>
Source record: 4051

```
What does "BCL" stand for?
```

--
@~@ You have the right to remain silent.
/ v \ Simplicity is Beauty! May the Force and farces be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.39.3
^ ^ 18:30:01 up 20 days 23:59 0 users load average: 1.21 1.32 1.38
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1902. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 10:35:34 UTC
From: me9@privacy.net
Message-ID: <51FC672078%brian13434@lycos.co.uk>
Source record: 4052

On 1 Aug,
Owen Duffy <none@no.where> wrote:

> "Sal" <sobars@aol.com> wrote in news:j15c89ifm1@dont-email.me:
>
> > I have two 20m dipoles hanging, one with a span line and one
> > free-hanging. They were both temporary ... last year.
>
> Sal, there would be those who would chide you that such an antenna
> obviously wasn't big enough... in the sense that "if it didn't blow down
> last season, it wasn't big enough".
>
> And we wonder why so many housing block have restictive covenants that are
> not ham friendly. We might just have bought that on ourselves to some
> extent.

At one time I was working JA from yhe UK using a long wire (about 40m) of 30 swg and 100w. It didn't blow down. however it was only up for a week as a stealth ant. currently my long wire is 1mm enameled wire, to be less vu=isibly intrusive (and at current copper prices cheaper) than the recommended 14 swg (12 awg).

This replaces one which failed a couple of years ago constructed with thin insulated 5A lighting flex not much more than bell wire that had been up nearly 30 years.

It's better using a non optimal stealth ant than none at all!

--
BD
Change lycos to yahoo to reply

1903. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 10:52:03 UTC
From: NM5K <none@invalid.net>
Message-ID: <j18ksq$4eq$1@dont-email.me>
Source record: 4054

On 8/1/2011 8:11 PM, Kevin wrote:

>
> You have a point Mark. I agree that a simple 1/4 wave groundplane is more
> study and very easy to make using an so-239 and some piano wire. Steel wire
> can be soldered right into the back, four bolts with nuts and four more
> peaces of wire around 19" long with a bit of a downward bend and you have a
> very good antenna.
>
> Kevin, WB5RUE
>
>
I'd use copper wire vs the steel or piano wire. They would work,
but I think the copper would be a better conductor. Steel in
particular is not too good. Also copper is a lot easier to solder to.
If you use solid wire of say 12 or 14 gauge, it's stiff enough to
stand up straight, but flexible enough to be bent and hold it's
shape.
If you are going to hang the antenna from something, you can use the
inner conductor of coax as the radiator, "shield stripped back 19
inches" and attach wire radials to the shield. All you have to do is
hang it up, and then bend out the radials at about 45 degrees, and you
are ready to become radioactive.

For a deluxe version, shave off the covering of the braid a 1/4 wave
below the radials at the feed point and add a second set of radials
to the braid.
That version would be well decoupled. Would blow most J poles out of
the water I suspect if you want to concentrate on the horizon, vs up
at some peculiar angle which is fairly useless for VHF/UHF.
Decoupling of the feed line is more important than radiator gain on
those bands. IE: a 1/4 GP can often outperform a 1/2 wave vertical if
the 1/2 wave has little or no decoupling. Which is the case for most
1/2 wave J poles.

1904. Re: BCL Receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 10:57:25 UTC
From: NM5K <none@invalid.net>
Message-ID: <j18l6r$5kk$1@dont-email.me>
Source record: 4055

On 8/2/2011 5:33 AM, Man-wai Chang wrote:
>
> What does "BCL" stand for?
>
Broadcast listener. When people say that, I usually assume they
mean the AM or medium wave band.. "540-1700 kc"

1905. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 15:24:35 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j194rs$9un$1@dont-email.me>
Source record: 4056

On 8/1/2011 7:52 PM, Jim Lux wrote:
> On 7/31/2011 3:26 PM, Owen Duffy wrote:
>> John S<sophi.2@invalid.org> wrote in news:j14jq9$p24$1@dont-email.me:
>>
>>>
>>> Maybe because NFPA 70 costs $150 US?
>>>
>>
>> Yes, standards are expensive things and it is a frustration when
>> researching.
>>
>> Anyway, NFPA makes recommendation on the wires for ham antennas
>> specifically, and it may be binding in some places.
>>
>> I suspect the reason for ignoring it is that the advice is unaccepable
>> to most hams.
>>
>> That said, it does seem over the top in some areas, and is hardly
>> comprehensive in its thinking. For example, the prescription for
>> feedlines seems to not be aware of the existence and use of coax.
>
> You refer to the "continuously enclosed metallic shield", I suspect.
>
>>
>> I guess it is these gaps that give critics the basis for arguing against
>> the whole thing.
>>
>> Anyway, in respect of antenna wires, it does not 'permit' annealled
>> copper or other low strength materials, and it 'requires' a minimum
>> conductor diameter of #14 for up to 150' span.
>>
>> They may have had in mind the risk to persons and property where low
>> strength conductor are broken in high wind and make contact with power
>> lines.
>>
>
> That is precisely why. (ice loads, too)

NFPA (according to what you posted) requires heavier gauge wire for
transmitting than for receiving. Transmitting makes the wire weigh more?

1906. Re: BCL Receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 16:55:30 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <j19a64kjj1@dont-email.me>
Source record: 4057

```
> Broadcast listener. When people say that, I usually assume they
> mean the AM or medium wave band.. "540-1700 kc"
>

Thanks
```

--
@~@ You have the right to remain silent.
/ v \ Simplicity is Beauty! May the Force and farces be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.39.3
^ ^ 00:52:01 up 21 days 6:21 0 users load average: 1.50 1.41 1.41
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1907. Re: Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 16:57:03 UTC
From: Dave <me@me.com>
Message-ID: <j19a8u$216$1@speranza.aioe.org>
Source record: 4058

<me9@privacy.net> wrote in message news:51FC65E5BE%brian13434@lycos.co.uk...
> On 2 Aug,
> "Dave" <me@me.com> wrote:
>
>> Anyway back on topic the T+K bracketts are just the shape T at the top
>> and
>> K shape at the bottom. One thing I forgot to add was the wall type it's
>> a
>> 'breeze block' construction or cemet block I think that's a cinder block
>> in
>> the US, and the wall has a filled cavity.
>
> I used 10mm resin anchors for a similar installation into brick, they have
> the advantage of being less likely to crack the brick as compared to
> expanding/rawl bolts. Breeze block is a dubious material, depending on
> it's
> strength it may or may not be ok. If it is a dense concrete block you
> should
> be ok, but I'd recommend resin type anchors anyway. I got mine from
> screwfix.
> --
> BD
> Change lycos to yahoo to reply

Funnily enough I was just looking into chemical (resin) fixings - do you have a link for the screwfix anchors you used ?

I have in the past used rawbolt's and indeed split the wall, well the ones near the top, a low thump as I tightened them up. They seemed ok with no problem afterwards with a 2m 10XY and a 88ele 70cm beams (this was my mum & dads house!)

Dave

1908. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 18:05:38 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j19e9ojct1@dont-email.me>
Source record: 4059

"Kevin" wrote in message news:_aIZp.30822$tp.27979@newsfe06.iad...

>At least it's good to see that my posts are making it out! ;)
>
>The French, in the cities tend to be rude and arrogant -- kind of like New
>York City but worse. In the smaller towns they are quite pleasant and
>welcome tourists as long as they don't act like "rude Americans" and expect
>"special treatment."
-
I personally had terrific interactions with people in France. However, it
is still a lot of fun to have jokes at their expense :)

1909. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 18:37:01 UTC
From: dplatt@radagast.org
Message-ID: <dnslg8-gld.ln1@radagast.org>
Source record: 4060

> You have a point Mark. I agree that a simple 1/4 wave groundplane is more
> study and very easy to make using an so-239 and some piano wire. Steel wire
> can be soldered right into the back, four bolts with nuts and four more
> peaces of wire around 19" long with a bit of a downward bend and you have a
> very good antenna.

It's worth noting that you don't actually need four radials. Two radials (on opposite sides of the feedpoint, bent down at around 45 degrees) will produce a perfectly satisfactory ground-plane. The patterns of 2- and 4-radial ground plane antennas are almost indistinguishable. A 4-radial antenna may *look* as if it would produce a much more circular pattern than a 2-radial antenna, but this doesn't turn out to actually be the case.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1910. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 19:15:19 UTC
From: Sal <sobars@aol.com>
Message-ID: <j19ichidf1@dont-email.me>
Source record: 4061

"Owen Duffy" <none@no.where> wrote in message
news:Xns9F34A3308F4AAnonenowhere@88.198.244.100...
> "Sal" <sobars@aol.com> wrote in news:j15c89ifm1@dont-email.me:
>
>> I have two 20m dipoles hanging, one with a span line and one
>> free-hanging. They were both temporary ... last year.
>
> Sal, there would be those who would chide you that such an antenna
> obviously wasn't big enough... in the sense that "if it didn't blow down
> last season, it wasn't big enough".

LOL
>
> And we wonder why so many housing block have restictive covenants that are
> not ham friendly. We might just have bought that on ourselves to some
> extent.

I'm in a 1960s neighborhood. If anybody bitches about
antennas (nothing, yet), I will invite their attention to the old-fashioned
utility poles & wires that decorate (?) the streets. A few blocks out and a
few years later, they undergrounded the utilities.

Sal

1911. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 19:24:10 UTC
From: Sal <sobars@aol.com>
Message-ID: <j19it3luu1@dont-email.me>
Source record: 4062

<me9@privacy.net> wrote in message news:51FC672078%brian13434@lycos.co.uk...
> On 1 Aug, >
> This replaces one which failed a couple of years ago constructed with
> thin insulated 5A lighting flex not much more than bell wire that had been
> up
> nearly 30 years.

This got me thinking. (Dangerous, yes, but I occasionally risk it.)

Since a normal dipole has current max near the center, is there more localized heating (I-squared-R) nearer the feed point? Seems like it ought to be. Can you overheat a small wire and make it fail there by melting?????

No, I don't want to try it. I'm hoping somebody knows. Exciting story even better.

"Sal"

1912. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 19:33:09 UTC
From: Sal <sobars@aol.com>
Message-ID: <j19jdupmo1@dont-email.me>
Source record: 4063

"Wayne" <mygarbagecan@verizon.net> wrote in message
news:j19e9ojct1@dont-email.me...
>
>
> "Kevin" wrote in message news:_aIZp.30822$tp.27979@newsfe06.iad...
>
>>At least it's good to see that my posts are making it out! ;)
>>
>>The French, in the cities tend to be rude and arrogant -- kind of like New
>>York City but worse. In the smaller towns they are quite pleasant and
>>welcome tourists as long as they don't act like "rude Americans" and
>>expect "special treatment."
> -
> I personally had terrific interactions with people in France. However, it
> is still a lot of fun to have jokes at their expense :)

My only time to be arrested in 68 years: Paris, early afternoon, public
park, sober, in USN uniform. Have all the fun you want with jokes at their
expense.

Eskimos have over 60 words for "ice." The French have about that many for
"surrender."

OK, I'm done.

1913. Re: Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 20:42:39 UTC
From: me9@privacy.net
Message-ID: <51FC9F3D5A%brian13434@lycos.co.uk>
Source record: 4064

On 2 Aug,
"Dave" <me@me.com> wrote:

> Funnily enough I was just looking into chemical (resin) fixings - do you
> have a link for the screwfix anchors you used ?
>
Looks like it was from Toolstation rathr than Screwfix (local branches are
next door to each other):
<http://www.toolstation.com/shop/Screws+Fixings/Chemical+Fixings/Resin+Bolt+Stud+Fix+300ml
/d90/sd1960/p11337>

--
BD
Change lycos to yahoo to reply

1914. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 22:10:40 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j19sl8$s20$1@dont-email.me>
Source record: 4065

On 8/2/2011 2:33 PM, Sal wrote:
> "Wayne"<mygarbagecan@verizon.net> wrote in message
> news:j19e9ojct1@dont-email.me...
>>
>>
>> "Kevin" wrote in message news:_aIZp.30822$tp.27979@newsfe06.iad...
>>
>>> At least it's good to see that my posts are making it out! ;)
>>>
>>> The French, in the cities tend to be rude and arrogant -- kind of like New
>>> York City but worse. In the smaller towns they are quite pleasant and
>>> welcome tourists as long as they don't act like "rude Americans" and
>>> expect "special treatment."
>> -
>> I personally had terrific interactions with people in France. However, it
>> is still a lot of fun to have jokes at their expense :)
>
> My only time to be arrested in 68 years: Paris, early afternoon, public
> park, sober, in USN uniform. Have all the fun you want with jokes at their
> expense.
>
> Eskimos have over 60 words for "ice." The French have about that many for
> "surrender."
>
> OK, I'm done.

According to Hank (the cow dog) chickens have about 12 words. All of
them mean "HELP!"

1915. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 23:07:23 UTC
From: NM5K <none@invalid.net>
Message-ID: <j19vvh$f5t$1@dont-email.me>
Source record: 4066

On 8/2/2011 1:37 PM, Dave Platt wrote:
>> You have a point Mark. I agree that a simple 1/4 wave groundplane is more
>> study and very easy to make using an so-239 and some piano wire. Steel wire
>> can be soldered right into the back, four bolts with nuts and four more
>> peaces of wire around 19" long with a bit of a downward bend and you have a
>> very good antenna.
>
> It's worth noting that you don't actually need four radials. Two
> radials (on opposite sides of the feedpoint, bent down at around 45
> degrees) will produce a perfectly satisfactory ground-plane. The
> patterns of 2- and 4-radial ground plane antennas are almost
> indistinguishable. A 4-radial antenna may *look* as if it would
> produce a much more circular pattern than a 2-radial antenna, but this
> doesn't turn out to actually be the case.
>
>
That's true as far as the pattern. But.. The more radials you
use, the better the decoupling from the feed line. Most of my
1/4 wave GP's actually use 6-8 radials. I've done tests, and
it does make a difference. But for casual use, what you say is
true. Only two radials are required to get a pretty good omni
pattern. Or one, if vertical.. But then you might as well call
it a 1/2 wave vertical instead of a ground plane.
And you will then require some kind of decoupling scheme below
the vertical for optimum results. I prefer radial sets, cones, etc
vs feed line chokes.

1916. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 23:30:27 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <j1a1aislv1@dont-email.me>
Source record: 4067

On 7/31/2011 16:32, KD2AIP wrote:
> Anyone have experience making a dipole from 18 gauge speaker wire? I
> have a whole lot of it lying around the house, and was wondering if I
> could put it to some good use.

Be aware that the National Electric Code (NEC); that is enforced as law in many jurisdictions; forbids the use of wire that small for aerials of radio stations. The NEC specifically requires that size fourteen American Wire Gauge be the minimum size that is used.

In point of fact you are unlikely to ever get inspected unless some neighbor is raising a stink about your antenna. The danger is that in the event of a physical failure of the antenna that brings harm to anyone or anything, the use of non code compliant size wire will shift all blame on to you. That could include a trespassing neighbor kid yanking on your coax lead in and being burned before you realized that the antenna was in direct contact with him because the wire of the antenna that was supporting the coax had failed. The reason that you might be blamed for something that at first blush appears to be outrageous conduct on the kids part is based on the idea that anything like that which is not sufficiently guarded so as to prevent that kind of occurrence is considered to be an attractive nuisance in the eyes of the law.

If the wire is supported on a messenger that has at least the breaking strength of #14 AWG wire the reasonableness standard should serve as an effective shield against that particular approach in a law suit. Be aware that in electrical parlance, which is what the code is written in, messenger supported means that it is continuously supported by another means. It does not mean that it is suspended from some stronger support at it's ends. To be messenger supported the entire weight and the catenary strain of the support system would have to be born entirely by a means other than the undersized conductor itself.

I am not a lawyer nor do I play one on local cable access television. If you need advice about the most likely legal affects of an injury that is caused by your amateur radio equipment you might want to patronize a law schools legal clinic. The Professors that supervise such clinics love questions like this because they take a fair amount of effort to answer well. What you end up with is really high quality advice prepared under the supervision of some of the best legal minds that a person of ordinary means could ever get access to.

I've quoted the sections of the NEC which are applicable to antenna conductor size below. Be aware that the NEC contains many more provisions covering amateur radio stations specifically. It is worth

your time to obtain the use of the edition of the NEC that is adopted for enforcement in your community and check your installation against the provisions of the code.

--
FWIW YMMV
Tom Horne, W3TDH

"ARTICLE 810 Radio and Television Equipment
I. General
810.1 Scope.
This article covers antenna systems for radio and television receiving equipment, amateur radio transmitting and receiving equipment, and certain features of transmitter safety. This article covers antennas such as multi-element, vertical rod, and dish, and also covers the wiring and cabling that connects them to equipment.

810.11 Material.
Antennas and lead-in conductors shall be of hard-drawn copper, bronze, aluminum alloy, copper-clad steel, or other high-strength, corrosion-resistant material.
Exception: Soft-drawn or medium-drawn copper shall be permitted for lead-in conductors where the maximum span between points of support is less than 11 m (35 ft).

810.12 Supports.
Outdoor antennas and lead-in conductors shall be securely supported. The antennas or lead-in conductors shall not be attached to the electric service mast. They shall not be attached to poles or similar structures carrying open electric light or power wires or trolley wires of over 250 volts between conductors. Insulators supporting the antenna conductors shall have sufficient mechanical strength to safely support the conductors. Lead-in conductors shall be securely attached to the antennas.

810.13 Avoidance of Contacts with Conductors of Other Systems.
Outdoor antennas and lead-in conductors from an antenna to a building shall not cross over open conductors of electric light or power circuits and shall be kept well away from all such circuits so as to avoid the possibility of accidental contact. Where proximity to open electric light or power service conductors of less than 250 volts between conductors cannot be avoided, the installation shall be such as to provide a clearance of at least 600 mm (2 ft).

Where practicable, antenna conductors shall be installed so as not to cross under open electric light or power conductors.

[One of the leading causes of electrical shock and electrocution, according to statistical reports, is the accidental contact of radio, television, and amateur radio transmitting and receiving antennas and equipment with light or power conductors. Extreme caution should therefore be exercised during this type of installation, and periodic visual inspections should be conducted thereafter.] This is explanatory

material from the NEC Handbook and not part of the NEC.

810.14 Splices.
Splices and joints in antenna spans shall be made mechanically secure with approved splicing devices or by such other means as will not appreciably weaken the conductors.

[Conductor spans from antennas should be of sufficient size and strength to maintain clearances and avoid possible contact with light or power conductors. Splices and joints should be made with approved connectors or other means that provide sufficient mechanical strength so that conductors are not weakened appreciably, a condition that could cause them to break and come into contact with higher-voltage conductors.]
This is explanatory material from the NEC Handbook and not part of the NEC.

810.15 Grounding.
Masts and metal structures supporting antennas shall be grounded in accordance with 810.21.

810.52 Size of Antenna.
Antenna conductors for transmitting and receiving stations shall be of a size not less than given in Table 810.52.

Table 810.52 Size of Amateur Station Outdoor Antenna Conductors
Material Minimum Size of Conductors (AWG)
Where Maximum Open Span Length Is
Less Than 45 m (150 ft) Over 45 m (150 ft)
Hard-drawn copper 14 10
Copper-clad steel, bronze, or other high-strength material
14 12

810.53 Size of Lead-In Conductors.
Lead-in conductors for transmitting stations shall, for various maximum span lengths, be of a size at least as great as that of conductors for antennas as specified in 810.52." Copyright 2002 the National Fire Protection Association.

1917. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 23:33:51 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <j1a1guslv2@dont-email.me>
Source record: 4068

On 8/2/2011 11:24, John S wrote:
> On 8/1/2011 7:52 PM, Jim Lux wrote:
>> On 7/31/2011 3:26 PM, Owen Duffy wrote:
>>> John S<sophi.2@invalid.org> wrote in news:j14jq9$p24$1@dont-email.me:
>>>
>>>>
>>>> Maybe because NFPA 70 costs $150 US?
>>>>
>>>
>>> Yes, standards are expensive things and it is a frustration when
>>> researching.
>>>
>>> Anyway, NFPA makes recommendation on the wires for ham antennas
>>> specifically, and it may be binding in some places.
>>>
>>> I suspect the reason for ignoring it is that the advice is unaccepable
>>> to most hams.
>>>
>>> That said, it does seem over the top in some areas, and is hardly
>>> comprehensive in its thinking. For example, the prescription for
>>> feedlines seems to not be aware of the existence and use of coax.
>>
>> You refer to the "continuously enclosed metallic shield", I suspect.
>>
>>>
>>> I guess it is these gaps that give critics the basis for arguing against
>>> the whole thing.
>>>
>>> Anyway, in respect of antenna wires, it does not 'permit' annealled
>>> copper or other low strength materials, and it 'requires' a minimum
>>> conductor diameter of #14 for up to 150' span.
>>>
>>> They may have had in mind the risk to persons and property where low
>>> strength conductor are broken in high wind and make contact with power
>>> lines.
>>>
>>
>> That is precisely why. (ice loads, too)
>
> NFPA (according to what you posted) requires heavier gauge wire for
> transmitting than for receiving. Transmitting makes the wire weigh more?

No but it does make it more dangerous to persons and things on which it
might fall if it breaks.

--
Tom Horne, W3TDH

1918. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 23:38:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c92h37p2gq654oigaqa4ojolbhu92ga28c@4ax.com>
Source record: 4069

On Tue, 2 Aug 2011 12:24:10 -0700, "Sal" <sobars@aol.com> wrote:

>This got me thinking. (Dangerous, yes, but I occasionally risk it.)

It is supposed to be a license requirment.

>Since a normal dipole has current max near the center, is there more
>localized heating (I-squared-R) nearer the feed point? Seems like it ought
>to be. Can you overheat a small wire and make it fail there by melting?????

Yup. The amount of current that would do that is called the "Fuse
Current" which can be dramatically large. Example, wirewrap wire's
fuse current is slightly more than 10 Amps.

73's
Richard Clark, KB7QHC

1919. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 23:42:07 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <j1a20emc1@dont-email.me>
Source record: 4070

On 8/1/2011 20:42, Jim Lux wrote:
> On 7/31/2011 2:02 PM, Owen Duffy wrote:
>
>>
>> PS: hams universally ignore the guidance of NFPA 70 which makes
>> recommendation on conductors for antennas.
>
> Are you saying the electrical code is sort of like the pirate code? more
> guidelines than actual requirements?
>
> I think the way that hams can rationalize it is that most wire antennas
> (particularly those made with fine wire) are, by their nature,
> "temporary installations". The finer the wire, the more temporary.

The National Electric Code limits the use of Temporary installations to
power and lighting conductors.

"ARTICLE 527 Temporary Installations
527.1 Scope.
The provisions of this article apply to temporary electrical power and
lighting installations." Copyright 2002 the National Fire Protection
Association.

--
Tom Horne, W3TDH

1920. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-02 23:46:19 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <j1a28a$24l$1@dont-email.me>
Source record: 4071

On 7/31/2011 23:51, Irv Finkleman wrote:
> This topic is likely to spur a lot of discussion. For a while two of us
> were using zip cord
> which in itself is frequently used as speaker wire.
>
> Mine was strung across and somewhat around the back yard to I could work 75m
> and up with a tuner.
> George, VE6VA surprised me when I noticed he had a feedling going out of his
> shack -- it was cloth covered line cord! Both of us had lots of fun on the
> bands.
> I should add that my transmission line and both halves of the dipole were
> made
> from one piece of line cord/speaker wire -- I just brought the end of the
> transmission
> line into a plastic wire-tie, and fed the lines around the yard, using a
> couple
> tree branches and a small pole on the garage. The other dipole half was
> just
> long enough to reach the front of the house where it was then suspended
> by a small lilac bush and a tall fir tree. End insulators were just bits of
> scrap plastic and both ends were suspended with a long string of short
> and medium pieces tied together! From experience I think that I can
> generalize that you matter how much nylon line a ham buys, in time
> it degenerates into a wide assortment of randomly short lengths, none
> of which alone can serve any purpose!
>
> After 50 plus years of hamming fun, I have come to the conclusion that
> anything with a little metal in it will serve as an antenna if you hook it
> up in the right manner. It has truly surprised me over the years just
> how little antenna I had, and how far it was getting out.
>
> Some antenna's will work better than others, and eventually every
> ham, whose expectations eventually approch infinity will want to try
> a 'better antenna'. Aside from collecting materials, and it doesn't
> take much to make a dipole, once you know where you can string
> your wires, it's easy to try a variety of antennas. In the long run
> you will probably find that a half wave dipole will do the best,
> and if you can drop the ends, changing it into an inverted-Vee
> you will have near omnidirectional operation on the higher bands.
>
> Antennas, discussed here have impedance, Jx+something or other, specific
> lengths,
> and so many rules that your life as a ham will make you miserable
> when you dare approach the shack. Throw an arrow into the

> air (throw an antenna into the air), suspend it here and there, and
> then see if it works. If it does, Great! -- If it doesn't -- well, try
> something else. Chances are you will have so much fun that
> you postpone tidying up the knots, but some of those things
> stay up for ever until their age approaches that of a typical
> old fogie antenna fussy, Smith chart interpreter, know-it-
> all hams, like most of us here
>
> Antennas are funny people!
>
> Get the wire up, have a ball!
>
> Irv
> VE6BP, Calgary
>
> Political correctness is a doctrine, fostered by a delusional, illogical
> minority, and rapidly promoted by an unscrupulous mainstream media, which
> holds forth the proposition that it is entirely possible to pick up a piece
> of poop by the clean end.
>
>
> "KD2AIP" <emmett.hoops@gmail.com> wrote in message
> news:e5bba3fc-510d-49a2-b392-c9b63e539606@eb1g2000vbb.googlegroups.com...
>> Anyone have experience making a dipole from 18 gauge speaker wire? I
>> have a whole lot of it lying around the house, and was wondering if I
>> could put it to some good use.
>>
>
>

Because it disrupts the normal flow of the conversation.

Why is top posting on use net considered discourteous?

--
Tom Horne, W3TDH

1921. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 00:16:10 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j1a40g$bs9$1@dont-email.me>
Source record: 4072

"Tom Horne" wrote in message news:j1a1aislv1@dont-email.me...

On 7/31/2011 16:32, KD2AIP wrote:
>> Anyone have experience making a dipole from 18 gauge speaker wire? I
>> have a whole lot of it lying around the house, and was wondering if I
>> could put it to some good use.
>
>Be aware that the National Electric Code (NEC); that is enforced as law
>in many jurisdictions; forbids the use of wire that small for aerials of
>radio stations. The NEC specifically requires that size fourteen
>American Wire Gauge be the minimum size that is used.
<snip>
-
And of course, there are hams out there who consider the NEC, as applied to
antennas on their own property, to be an irrelevant government overreach.

Naturally, that is not my opinion :)

1922. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 03:11:33 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j1ae95$n056$1@tr22n12.aset.psu.edu>
Source record: 4073

On 8/2/2011 7:33 PM, Tom Horne wrote:

> No but it does make it more dangerous to persons and things on which it
> might fall if it breaks.

Come on, Guys!

While it's a great idea to follow every official code and reccomendation, and that no one in their "right mind" would ever consider anything less than the lowest gauge copperweld wire for their antenna, the original question is answerable by "Yes, you can make a serviceable antenna out of speaker wire."

Will it stay up as long as a Copperweld antenna held in place by1/4 inch thick 100 percent nylon rope?

No it won't.

But it will work. Surprisingly well, in fact.

Let the new guys learn, and throw up antennas that work. As they have to put up a new one every so often, they will eventually learn about more long lasting antennas, as well as ones that might have a better pattern, and other effects that bear on performance.

But the idea that hams are responsible for restrictive covenents (in reality, Cable television is more responsible for antenna covenants than anything else) or that the choice of speaker wire is going to electrocute the neighbors is doing a disservice to the new guys and gals.

I can say this with some conviction because I was one of those noobs once, and nearly didn't even get on HF because with all the input, I gave up on putting up an antenna because nothing was good enough. I didn't have enough space, I didn't have enough height. There just wasn't any use in getting on the low bands. I needed a separate antenna for every band because ladder line was awful and traps were bad and every other option was awful except for some idealized correct antenna, coax fed, at the proper height.

- 73 de Mike N3LI -

1923. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 03:20:15 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j1aepf$n058$1@tr22n12.aset.psu.edu>
Source record: 4074

On 8/2/2011 7:42 PM, Tom Horne wrote:

> "ARTICLE 527 Temporary Installations
> 527.1 Scope.
> The provisions of this article apply to temporary electrical power and
> lighting installations." Copyright 2002 the National Fire Protection
> Association.

I have found that the safest option is to not ever put up any antenna whatsoever, Tom. It's just too dangerous, and gives us unneeded exposure.

Can you ensure that an antenna that is installed to the code specifications, will not fall down?

Will your code spec prevent you from incurring liability if a wire antenna falls down and electrocutes a neighbor?

The answer to both questions is "no", BTW.

I find that this entire discussion is pretty amazing when compared to the original question.

As opposed to electrical code and liability admonitions, perhaps a good answer is:

"Yes, you can make an adequate antenna from speaker wire. There might be better options, though."

- 73 de Mike N3LI -

1924. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 03:30:35 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j1afcr$n05a$1@tr22n12.aset.psu.edu>
Source record: 4075

On 8/1/2011 9:13 PM, Kevin wrote:
> At least it's good to see that my posts are making it out! ;)
>
> The French, in the cities tend to be rude and arrogant -- kind of like New
> York City but worse. In the smaller towns they are quite pleasant and
> welcome tourists as long as they don't act like "rude Americans" and expect
> "special treatment."

I've found that when I attempt to speak the language, I'm pretty well treated.

Now there is the possibility that they just find it amusing and charming, because I took both French and Spanish, and in conversation I can slip between both languages inadvertently.

Usually when I note that I "Parlez poco Francaise" they start smiling....

As for New York, I haven't had much trouble there, but then I give back what I get. Most seem to actually like some attitude. Go figure!

Like the old joke "Can you tell me the directions to Soho, or should I just go @*^! myself?

Whaddevuh! 8^)

- 73 de Mike N3LI -

1925. Re: Rawbolt size for standdoff bracketts + ali pole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 09:17:29 UTC
From: Dave <me@me.com>
Message-ID: <j1b3p4gas1@speranza.aioe.org>
Source record: 4076

<me9@privacy.net> wrote in message news:51FC9F3D5A%brian13434@lycos.co.uk...
> On 2 Aug,
> "Dave" <me@me.com> wrote:
>
>> Funnily enough I was just looking into chemical (resin) fixings - do you
>> have a link for the screwfix anchors you used ?
>>
> Looks like it was from Toolstation rathr than Screwfix (local branches are
> next door to each other):
> <http://www.toolstation.com/shop/Screws+Fixings/Chemical+Fixings/Resin+Bolt+Stud+Fix+300ml/d90/sd1960/p11337>
>
> --
> BD
> Change lycos to yahoo to reply

Thanks, looks cheaper than Screwfix. Did you use a normal 'frame' with the resin, I think some of them need a stronger frame because of the viscous nature of the resin. Looking at the spec this resin is really strong stuff I didn't realise how strong it was - about 2800Kg tensile strength on a 10mm bolt !....

1926. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 10:14:26 UTC
From: david <none@nospam.com>
Message-ID: <j1b721$r4d$3@dont-email.me>
Source record: 4077

On Tue, 02 Aug 2011 12:33:09 -0700, Sal rearranged some electrons to say:

> "Wayne" <mygarbagecan@verizon.net> wrote in message
> news:j19e9ojct1@dont-email.me...
>>
>>
>> "Kevin" wrote in message news:_aIZp.30822$tp.27979@newsfe06.iad...
>>
>>>At least it's good to see that my posts are making it out! ;)
>>>
>>>The French, in the cities tend to be rude and arrogant -- kind of like
>>>New York City but worse. In the smaller towns they are quite pleasant
>>>and welcome tourists as long as they don't act like "rude Americans"
>>>and expect "special treatment."
>> -
>> I personally had terrific interactions with people in France. However,
>> it is still a lot of fun to have jokes at their expense :)
>
> My only time to be arrested in 68 years: Paris, early afternoon, public
> park, sober, in USN uniform. Have all the fun you want with jokes at
> their expense.
>
> Eskimos have over 60 words for "ice." The French have about that many
> for "surrender."
>
> OK, I'm done.

Do you know why there are so many trees on the streets of Paris?
To give the Germans shade while they are marching.

1927. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 10:23:15 UTC
From: david <none@nospam.com>
Message-ID: <j1b7ij$r4d$4@dont-email.me>
Source record: 4078

On Tue, 02 Aug 2011 23:11:33 -0400, Mike Coslo rearranged some electrons to say:

> But it will work. Surprisingly well, in fact.
>

My present HF antenna is a piece of 4-conductor ribbon cable, with 60 feet of each outside conductor pulled off to make a 120 foot dipole, the rest of the cable being used as a feedline to a balun and thence to a tuner. Is it ideal? No. But it's good enough to work 45 states so far on 75m, a few dozen DX contacts on 20 and 40m, etc. Plus, it's nearly invisible against the side of the house.

During field day, I used a homemade doublet fed with 450 ohm ladder line to the same tuner, remotely mounted in a waterproof box, I was able to work 15m and 80m on the same antenna, made a few hundred contacts. Eventually (when the leaves fall) I plan to replace the ribbon cable dipole with the doublet and the remote tuner on some tall trees in the backyard.

1928. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 13:16:21 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <47d510a3-64b6-4e03-871d-f9f991a21635@w27g2000yqk.googlegroups.com>
Source record: 4079

Very simply, yes, it can be used for making antennas. If it's strong enough to hold up it's own weight, and that of the feed line without stretching unreasonably, then it should do fine. What happens if it stretches? You shorten it. I think I'd try a larger size for 160 meters and maybe 80 meters, but if it can stand the weight and the weather, why not?
- 'Doc

1929. HOT ACTRESS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 14:13:11 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <401d4226-a428-4ed8-b963-f841e8109adc@f17g2000prf.googlegroups.com>
Source record: 4080

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http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html
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http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1930. FS Heath HM-2102 VHF SWR power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 14:42:47 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <j1bmp5$4pg$1@dont-email.me>
Source record: 4081

I have a Heath HM-2102 VHF SWR power meter 50-160 MHz
0-25 and 0-250 watts. Excellent condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

1931. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 20:48:04 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <Xti_p.569034$SG4.208974@newsfe03.iad>
Source record: 4082

Hear! Hear!

I would have been off the air forever if this newsgroup had been
my only source of knowledge. I would have been afraid!
What I didn't know about Jx and SWR didn't make any difference -- I was on
the air and really enjoying the hobby! I didn't even know how to solder
then!

Irv VE6BP (first licenced in '58)

"Mike Coslo" <mjc5@psu.edu> wrote in message
news:j1ae95$n056$1@tr22n12.aset.psu.edu...
> On 8/2/2011 7:33 PM, Tom Horne wrote:
>
>> No but it does make it more dangerous to persons and things on which it
>> might fall if it breaks.
>
> Come on, Guys!
>
> While it's a great idea to follow every official code and reccomendation,
> and that no one in their "right mind" would ever consider anything less
> than the lowest gauge copperweld wire for their antenna, the original
> question is answerable by "Yes, you can make a serviceable antenna out of
> speaker wire."
>
> Will it stay up as long as a Copperweld antenna held in place by1/4 inch
> thick 100 percent nylon rope?
>
> No it won't.
>
> But it will work. Surprisingly well, in fact.
>
> Let the new guys learn, and throw up antennas that work. As they have to
> put up a new one every so often, they will eventually learn about more
> long lasting antennas, as well as ones that might have a better pattern,
> and other effects that bear on performance.
>
> But the idea that hams are responsible for restrictive covenents (in
> reality, Cable television is more responsible for antenna covenants than
> anything else) or that the choice of speaker wire is going to electrocute
> the neighbors is doing a disservice to the new guys and gals.
>
> I can say this with some conviction because I was one of those noobs once,
> and nearly didn't even get on HF because with all the input, I gave up on
> putting up an antenna because nothing was good enough. I didn't have

> enough space, I didn't have enough height. There just wasn't any use in
> getting on the low bands. I needed a separate antenna for every band
> because ladder line was awful and traps were bad and every other option
> was awful except for some idealized correct antenna, coax fed, at the
> proper height.
>
> - 73 de Mike N3LI -
>
>
>
>

1932. Re: FS Heath HM-2102 VHF SWR power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 20:56:54 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <eCi_p.115164$8G4.49800@newsfe17.iad>
Source record: 4083

If you hang on to it a little longer it will be a 'classic' and you
can ask more for it!

In actuality, things like that are available at a lot of ham flea
markets, and in some cases, hams will give you things like that
just because they are 'real' hams.

Irv VE6BP

"Henry" <wa0goz@arrl.net> wrote in message
news:itvnh2puf1@dont-email.me...
>I have a Heath HM-2102 VHF SWR power meter 50-160 MHz
> 0-25 and 0-250 watts. Excellent condition.
>
> I'm *asking* $40 plus shipping.
>
>
> It can be viewed at:
>
>
http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf
>
> or
>
> http://tinyurl.com/yktwxpz click on photo to enlarge it.
>
> Henry WA0GOZ
>

1933. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 21:34:08 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j1cert$gs28$1@tr22n12.aset.psu.edu>
Source record: 4084

On 8/3/2011 4:48 PM, Irv Finkleman wrote:
> Hear! Hear!
>
> I would have been off the air forever if this newsgroup had been
> my only source of knowledge. I would have been afraid!
> What I didn't know about Jx and SWR didn't make any difference -- I was on
> the air and really enjoying the hobby! I didn't even know how to solder
> then!

Right.

But I would like to say that it isn't at all that the information is wrong. In fact, the experts are generally 100 percent right. And that is where some of the problems are.

A noob comes in, and gets 3 different answers, and becomes hopelessly confused because they would seem to contradict each other. They don't really know how to figure it out.

It isn't confined to this group. Another group I'm in where I am a bit of an expert, Amateur telescope making, some times suffers from the same thing.

My point is that I'm not trying to chide the experts. After all, it's not very graceful to bust peoples chops when they take the time to answer a question. I's more begging them to realize that I'm a bit of an idiot, and easily confused!

- 73 de Mike N3LI -

1934. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-03 22:39:32 UTC
From: Sal <sobars@aol.com>
Message-ID: <j1cin5$5mh$1@dont-email.me>
Source record: 4085

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:QopZp.112808$8G4.95089@newsfe17.iad...

< snip >

> After 50 plus years of hamming fun, I have come to the conclusion that
> anything with a little metal in it will serve as an antenna if you hook it
> up in the right manner.

Yes.

I have properly-built 6m jpole which terminates in my shack. If I
disconnect the coax from the 6m rig, the connector center pin fits nicely
into the LONG WIRE terminal on my HF tuner. Electrically, the antenna is
merely a 13' hunk of metal, untuned as far as HF is concerned, except after
a little tuner knobulation. It's not the equal of a 'proper" antenna, but
it works.

1935. Re: FS Heath HM-2102 VHF SWR power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-04 04:54:25 UTC
From: Steve Silverman <n6363l@gmail.com>
Message-ID: <29d5486a-df3d-481e-a53e-21fcca5d8da3@f20g2000yqm.googlegroups.com>
Source record: 4086

On Jul 18, 11:32 pm, Henry <wa0...@arrl.net> wrote:
> I have a Heath HM-2102 VHF SWR power meter 50-160 MHz
> 0-25 and 0-250 watts. Excellent condition.
>
> I'm *asking* $40 plus shipping.
>
> It can be viewed at:
>
> http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf...
>
> or
>
> http://tinyurl.com/yktwxpz click on photo to enlarge it.
>
> Henry   WA0GOZ

If this meter is still available, I'll take it.

73

Steve Silverman
KB3SII

1936. SOUTH ACTRESS HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-04 06:54:42 UTC
From: SRAVANTHI LOVE <sravanthi.sravya24@gmail.com>
Message-ID: <52794472-8bec-4081-85c2-96448e73ab80@d8g2000prf.googlegroups.com>
Source record: 4087

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http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1937. SOUTH ACTRESS HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-04 07:04:33 UTC
From: RHANI <raghavaraghavi2862@gmail.com>
Message-ID: <e00c24d4-03cc-470a-9c44-81cebc68313f@y6g2000pro.googlegroups.com>
Source record: 4088

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KAJAL AGARWAL HOT SEXY PHOTOS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
KATRINA KAIF IN BEAUTIFUL RED DRESS
http://southactresstou.blogspot.com/2011/05/katrina-kaif_22.html

FOR FAST UPDATES IN TELUGU FILM INDUSTRY

PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1938. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-04 11:51:36 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <11699157-8bc5-4b2b-8b1a-a4462879d997@k15g2000yqd.googlegroups.com>
Source record: 4089

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http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

1939. ADULT HOT PICS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-04 14:08:58 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <a0ade537-201c-4a16-8d3a-741cf51933af@m5g2000prh.googlegroups.com>
Source record: 4090

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

FOR HOT PHOTO&VIDEOS

KATRINA KAIF RARE PHOTOS
http://southactresstou.blogspot.com/2011/07/katrina-kaif-wallpapers.html
KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
TAMANNA HOT SEXY PHOTOS & VIDEOS
http://southactresstou.blogspot.com/2011/07/tamanna-wallpapers.html
PRANITHA LATEST BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html
KAJAL AGARWAL HOT SEXY PHOTOS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
KATRINA KAIF IN BEAUTIFUL RED DRESS
http://southactresstou.blogspot.com/2011/05/katrina-kaif_22.html

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KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1940. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-05 02:44:35 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <f64d9319-c9ab-43f0-9d0a-29c4f9f81e29@w24g2000yqw.googlegroups.com>
Source record: 4091

just visite these sites

http://fashion1298.blogspot.com

http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

1941. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-05 15:50:34 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j1h3ga$u5j$1@news.jpl.nasa.gov>
Source record: 4092

On 8/2/2011 3:14 AM, darleyput@notquite.com wrote:
> Stainless steel mig welding wire. Any reason why this won't work as a
> wire antenna? Very strong, fairly cheap, but doesn't like kinks.
> 'I personally think Ray Davies wrote some very good songs.'
>
> http://en.wikipedia.org/wiki/Ray_Davies
>
>

SS is a terrible conductor?

I've seen copper clad MIG wire

The real issue is either you're putting that antenna up for the ages, in which case the NEC (aka NFPA 70) rules are a good sizing guideline; or, you're putting it up expecting it to fall down sooner or later, in which case you might as use whatever wire is convenient. For a lot of folks, buying a 500 foot spool of solid AWG14 wire at the hardware store is a good compromise.

The real issue is paying attention to "what happens when the wire breaks" so that you don't wind up inadvertently connecting the 14.4kV MV distribution line to your hand via the feedline and rig.

1942. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-05 15:53:46 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j1h3ma$u5j$2@news.jpl.nasa.gov>
Source record: 4093

On 8/2/2011 8:24 AM, John S wrote:
> On 8/1/2011 7:52 PM, Jim Lux wrote:
>> On 7/31/2011 3:26 PM, Owen Duffy wrote:
>>> John S<sophi.2@invalid.org> wrote in news:j14jq9$p24$1@dont-email.me:
>>>
>>>>
>>>> Maybe because NFPA 70 costs $150 US?
>>>>
>>>
>>> Yes, standards are expensive things and it is a frustration when
>>> researching.
>>>
>>> Anyway, NFPA makes recommendation on the wires for ham antennas
>>> specifically, and it may be binding in some places.
>>>
>>> I suspect the reason for ignoring it is that the advice is unaccepable
>>> to most hams.
>>>
>>> That said, it does seem over the top in some areas, and is hardly
>>> comprehensive in its thinking. For example, the prescription for
>>> feedlines seems to not be aware of the existence and use of coax.
>>
>> You refer to the "continuously enclosed metallic shield", I suspect.
>>
>>>
>>> I guess it is these gaps that give critics the basis for arguing against
>>> the whole thing.
>>>
>>> Anyway, in respect of antenna wires, it does not 'permit' annealled
>>> copper or other low strength materials, and it 'requires' a minimum
>>> conductor diameter of #14 for up to 150' span.
>>>
>>> They may have had in mind the risk to persons and property where low
>>> strength conductor are broken in high wind and make contact with power
>>> lines.
>>>
>>
>> That is precisely why. (ice loads, too)
>
> NFPA (according to what you posted) requires heavier gauge wire for
> transmitting than for receiving. Transmitting makes the wire weigh more?

An interesting observation. You'd have to go look at the history of
that article in the code to find out why. It's not impossible that they

were following standard commercial installation practice/recommendations back in the day, and it was "acceptable power loss" related. (the wire sizing for AC branch circuits is based on tolerating a 2% voltage drop, not overheating of the conductor)

1943. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-05 16:00:33 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j1h431uaj1@news.jpl.nasa.gov>
Source record: 4094

On 8/2/2011 12:24 PM, Sal wrote:
> <me9@privacy.net> wrote in message news:51FC672078%brian13434@lycos.co.uk...
>> On 1 Aug,>
>> This replaces one which failed a couple of years ago constructed with
>> thin insulated 5A lighting flex not much more than bell wire that had been
>> up
>> nearly 30 years.
>
> This got me thinking. (Dangerous, yes, but I occasionally risk it.)
>
> Since a normal dipole has current max near the center, is there more
> localized heating (I-squared-R) nearer the feed point? Seems like it ought
> to be. Can you overheat a small wire and make it fail there by melting?????
>
> No, I don't want to try it. I'm hoping somebody knows. Exciting story even
> better.
>
> "Sal"
>
>

Fusing current is remarkably high for small conductors in free air, even
for 100% duty cycle.

AWG30 (0.01" diameter) = about 10 Amps (Preece equation)

Scales as 1.5 power..
so, going to AWG 20 (.0316") -> about 50 amps..

Considering an inverted V dipole with feedpoint Z of 50 ohms, at 1kW,
the current is about 5 amps...

So running that legal limit amp with a brick on the key to your AWG30
stealth antenna won't melt it. (it probably will get pretty warm.. and
corona at the ends might be spectacular)

1944. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-05 16:04:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j1h4a9uaj2@news.jpl.nasa.gov>
Source record: 4095

On 8/2/2011 4:42 PM, Tom Horne wrote:
> On 8/1/2011 20:42, Jim Lux wrote:
>> On 7/31/2011 2:02 PM, Owen Duffy wrote:
>>
>>>
>>> PS: hams universally ignore the guidance of NFPA 70 which makes
>>> recommendation on conductors for antennas.
>>
>> Are you saying the electrical code is sort of like the pirate code? more
>> guidelines than actual requirements?
>>
>> I think the way that hams can rationalize it is that most wire antennas
>> (particularly those made with fine wire) are, by their nature,
>> "temporary installations". The finer the wire, the more temporary.
>
> The National Electric Code limits the use of Temporary installations to
> power and lighting conductors.
>
> "ARTICLE 527 Temporary Installations
> 527.1 Scope.
> The provisions of this article apply to temporary electrical power and
> lighting installations." Copyright 2002 the National Fire Protection
> Association.
>
> --
> Tom Horne, W3TDH

I was thinking more of local codes or enforcement. After all, the local "Authority Having Jurisdiction" (AHJ in code-speak) can and does override the NEC all the time.

There are also a whole lot of other "installations of a temporary nature" in the code: check out the sections about theatrical and motion picture filming. They allow substantially higher currents for a given size wire, on the not unreasonable basis that they're being operated under the (hopefully) continuous supervision of qualified personnel.

1945. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-05 19:21:23 UTC
From: Sal <sobars@aol.com>
Message-ID: <j1hfrmjsv1@dont-email.me>
Source record: 4096

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:j1h431uaj1@news.jpl.nasa.gov...

> Fusing current is remarkably high for small conductors in free air, even
> for 100% duty cycle.
>
> AWG30 (0.01" diameter) = about 10 Amps (Preece equation)
>
> Scales as 1.5 power..
> so, going to AWG 20 (.0316") -> about 50 amps..
>
> Considering an inverted V dipole with feedpoint Z of 50 ohms, at 1kW, the
> current is about 5 amps...
>
> So running that legal limit amp with a brick on the key to your AWG30
> stealth antenna won't melt it. (it probably will get pretty warm.. and
> corona at the ends might be spectacular)
>

Thank you very much. It's exactly what I was wondering about.

"Sal"

1946. FIRST NIGHT HOT VIDEOS AND KISS PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 09:59:32 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <cbc2c50e-c813-45d2-aa92-8b5448df873f@a2g2000prf.googlegroups.com>
Source record: 4098

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

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http://hotvideosonlyx.blogspot.com/2010/09/massage-hot-videos.html
romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
hollywood hot
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot.html
bollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/bollywood-hot-kiss.html
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dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

1947. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 10:04:45 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <24e8c323-fd75-4c45-a9ea-d781cafbfa75@e35g2000yqc.googlegroups.com>
Source record: 4097

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http://cricketin2011.blogspot.com/

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

1948. ADULT HOT PICS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 17:18:53 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <34c3846e-61be-4744-926f-cf1d379a5528@g39g2000pro.googlegroups.com>
Source record: 4099

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KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
TAMANNA HOT SEXY PHOTOS & VIDEOS
http://southactresstou.blogspot.com/2011/07/tamanna-wallpapers.html
PRANITHA LATEST BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html
KAJAL AGARWAL HOT SEXY PHOTOS
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http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1949. HF Antenna Options: Need Advice

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 19:51:28 UTC
From: Todd Carney <carneytf@gmail.com>
Message-ID: <5d1f4008-b1e8-4594-89f4-b6a9be033483@y8g2000prd.googlegroups.com>
Source record: 4100

I'm a neophyte here, but I've done quite a bit of reading on antenna characteristics and design. Still, I'd appreciate some advice from the more knowledgeable (that's pretty much anybody here).

1. I have pretty limited options for a serviceable antenna for, say, 40 to 10 meters. Right now, I am interested in CW only using QRP rigs (homebrew) for DX QSO's.

2. I want to limit the visual impact, so unless you advise strongly in favor of them I want to avoid verticals. I don't have code or covenant restrictions, but I do have a wife.

3. Here's the physical situation: My suburban property has two houses on it but no real trees I could use as anchor points. However, from peak of the big house to that of the guest house I can get about 96 feet. The big-house peak is about 25 feet high and the guest house about 13. For visual purposes, I'd like to use as thin a wire as possible.

4. Here's my idea: an end-fed wire with traps for multi-band use. I don't see how I could use a center-fed dipole unless the feeder came back parallel (right next to) along one leg of the dipole. In other words, I can't feed at perpendicularly. For a variety of reasons, the azimuth of a wire line between the two houses would be about 25 degrees/205 degrees.

So . . . what do you think? What kind of performance do you think I could expect from this setup?

Many thanks! ---Todd

1950. Re: J-pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 19:52:43 UTC
From: BillyBobMarley <whax44@gmail.com>
Message-ID: <585d6c59-788a-4ece-8b35-8cc4b867cab5@o18g2000yqm.googlegroups.com>
Source record: 4101

On Aug 1, 9:13 pm, "Kevin" <wb5...@yahoo.com> wrote:
> At least it's good to see that my posts are making it out! ;)
>
> The French, in the cities tend to be rude and arrogant -- kind of like New
> York City but worse. In the smaller towns they are quite pleasant and
> welcome tourists as long as they don't act like "rude Americans" and expect
> "special treatment."
>
> Kevin, WB5RUE
>
> "Mike Coslo" <m...@psu.edu> wrote in message
>
> news:j17iiu$jg5e$1@tr22n12.aset.psu.edu...
>
>
>
>
>
>
>
>
> > On 8/1/2011 4:38 PM, Kevin wrote:
>
> >> Kevin, WB5RUE
>
> >> Quoted correctly or not it's still accurate.
>
> > Ahh, the brothership of Hams - Good to see a friendly face here Kevin.
>
> > - Mike N3LI -

It was a lot like that in Germany in the 80's .I was stationed there
for 3 years and found if you get out of the "GI Towns" and went to the
smaller villages and towns outside of the bases they treated you like
gold.Of course I guess that's like anywhere else you get out of the
big cities and people are a more laid back .

1951. HF Antenna Options

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 20:44:43 UTC
From: Todd Carney <carneytf@gmail.com>
Message-ID: <1c5ec019-6c52-4866-9327-f14fc873e620@glegroupsg2000goo.googlegroups.com>
Source record: 4102

[Sorry if this is a repeat post. The first didn't seem to go through.]

I'm a neophyte here, but I've done quite a bit of reading on antenna characteristics and design. Still, I'd appreciate some advice from the more knowledgeable (that's pretty much anybody here).

1. I have pretty limited options for a serviceable antenna for, say, 40 to 10 meters. Right now, I am interested in CW only using QRP rigs (homebrew) for DX QSO's.

2. I want to limit the visual impact, so unless you advise strongly in favor of them I want to avoid verticals. I don't have code or covenant restrictions, but I do have a wife.

3. Here's the physical situation: My suburban property has two houses on it but no real trees I could use as anchor points. However, from peak of the big house to that of the guest house I can get about 96 feet. The big-house peak is about 25 feet high and the guest house about 13. For visual purposes, I'd like to use as thin a wire as possible.

4. Here's my idea: an end-fed wire with traps for multi-band use. I don't see how I could use a center-fed dipole unless the feeder came back parallel (right next to) along one leg of the dipole. In other words, I can't feed at perpendicularly. For a variety of reasons, the azimuth of a wire line between the two houses would be about 25 degrees/205 degrees.

So . . . what do you think? What kind of performance do you think I could expect from this setup?

Many thanks! ---Todd

1952. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 22:01:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F3A518E0FBEnonenowhere@88.198.244.100>
Source record: 4103

Jim Higgins <invalid@invalid.invalid> wrote in
news:6qmq37hpufb1j8he98131hfii5i00hejkm@4ax.com:

>
> Does anyone have a MFJ-868 SWR/Wattmeter?
>

MFJ claims that some of its products indicate PEP on SSB telephony, and some of the claims are plainly fraud.

In my experience, if the instrument does not use an active 'sample and hold' amplifier, it does not work adequately.

In the MFJ949E tuner, the PCB has provision for a single transistor amplifier, which if fitted, works passably... but they do not populate the board with the 20c worth of parts needed.

The good news is that the MFJ868 does have an active PEP amplifier, it looks a similar circuit to that in my AL80B which does work quite well. I have not checked the circuit in detail, nor the time constants involved, but this has a chance of working and working well.

> Is it really a true peak reading meter?

Well, of the MFJ949E, MFJ says "Lets you easily read SWR, true peak forward and average reflected power simultaneously on 300 Watt or 30 Watt ranges", and let me assure you that their "true peak forward" is a fraud... so this claim questions MFJ's credibility.

Don't trust any advertising claim with the word "true" in it.

BTW, the reflected meter in the '949E does not read average power of SSB telephony either, both meters can read the average power of an unmodulated wave.

Sellers make extravagant claims to a tame market that mostly doesn't understand the technical side.

>
> Any other comments about it?

None...

Owen

1953. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 22:06:06 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j1kdsr$k5m$1@dont-email.me>
Source record: 4104

On 8/6/2011 5:01 PM, Owen Duffy wrote:
> Jim Higgins<invalid@invalid.invalid> wrote in
> news:6qmq37hpufb1j8he98131hfii5i00hejkm@4ax.com:
>
>>
>> Does anyone have a MFJ-868 SWR/Wattmeter?
>>
>
> MFJ claims that some of its products indicate PEP on SSB telephony, and
> some of the claims are plainly fraud.
>
> In my experience, if the instrument does not use an active 'sample and
> hold' amplifier, it does not work adequately.
>
> In the MFJ949E tuner, the PCB has provision for a single transistor
> amplifier, which if fitted, works passably... but they do not populate
> the board with the 20c worth of parts needed.
>
> The good news is that the MFJ868 does have an active PEP amplifier, it
> looks a similar circuit to that in my AL80B which does work quite well.
> I have not checked the circuit in detail, nor the time constants
> involved, but this has a chance of working and working well.
>
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>
> Well, of the MFJ949E, MFJ says "Lets you easily read SWR, true peak
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> Watt ranges", and let me assure you that their "true peak forward" is a
> fraud... so this claim questions MFJ's credibility.
>
> Don't trust any advertising claim with the word "true" in it.
>
> BTW, the reflected meter in the '949E does not read average power of SSB
> telephony either, both meters can read the average power of an
> unmodulated wave.
>
> Sellers make extravagant claims to a tame market that mostly doesn't
> understand the technical side.
>
>>
>> Any other comments about it?
>
> None...
>

>
> Owen

Excellent information, Owen. Thank you.

John S

1954. Re: HF Antenna Options

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-06 22:28:06 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <fgfr37pvecdteovmte461jgbqrdoc1dvjd@4ax.com>
Source record: 4105

On Sat, 6 Aug 2011 13:44:43 -0700 (PDT), Todd Carney
<carneytf@gmail.com> wrote:

>[Sorry if this is a repeat post. The first didn't seem to go through.]
>
>I'm a neophyte here, but I've done quite a bit of reading on antenna
>characteristics and design. Still, I'd appreciate some advice from the
>more knowledgeable (that's pretty much anybody here).
>
>1. I have pretty limited options for a serviceable antenna for, say,
>40 to 10 meters. Right now, I am interested in CW only using QRP rigs
>(homebrew) for DX QSO's.
>
>2. I want to limit the visual impact, so unless you advise strongly in
>favor of them I want to avoid verticals. I don't have code or covenant
>restrictions, but I do have a wife.
>
>3. Here's the physical situation: My suburban property has two houses
>on it but no real trees I could use as anchor points. However, from
>peak of the big house to that of the guest house I can get about 96
>feet. The big-house peak is about 25 feet high and the guest house
>about 13. For visual purposes, I'd like to use as thin a wire as
>possible.
>
>4. Here's my idea: an end-fed wire with traps for multi-band use. I
>don't see how I could use a center-fed dipole unless the feeder came
>back parallel (right next to) along one leg of the dipole. In other
>words, I can't feed at perpendicularly. For a variety of reasons, the
>azimuth of a wire line between the two houses would be about 25
>degrees/205 degrees.
>
>So . . . what do you think? What kind of performance do you think I
>could expect from this setup?
>
>Many thanks! ---Todd

Try an off-center fed dipole (OCF).

Here's what I use:
http://www.wcerc.org/Projects/ocf_dipole.asp

Here's the balun I use:
http://www.balundesigns.com/servlet/the-75/OCF-balun-4-cln-1/Detail

I am a QRP CW operator with no trees on my property. I run a Small
Wonder Lab SW-40 (1.5 watts) and a Yaesu FT-817 at 2.5 watts. The

balun is tied to a PVC vent pipe on my roof, about 25 feet in the air. The long end of the antenna goes to my shed and terminates about 15 feet above ground. The short end runs to my garage and terminates about 12 feet above ground.

The antenna loads on 80 but the bandwidth is very small. Works fine on 40 -- with my QRP rigs, I work into Europe, S America, Caribbean, Canada, all over US, occasionall into South Pacific.

Here is a commercially available OCF dipole:

http://hamcall.net/7bandocf.html

1955. ADULT HOT PICS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-07 05:00:33 UTC
From: RHANI <raghavaraghavi2862@gmail.com>
Message-ID: <98c60437-550c-4cda-99d3-80e4326e812a@m5g2000prh.googlegroups.com>
Source record: 4106

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

FOR HOT PHOTO&VIDEOS

KATRINA KAIF RARE PHOTOS
http://southactresstou.blogspot.com/2011/07/katrina-kaif-wallpapers.html
KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
TAMANNA HOT SEXY PHOTOS & VIDEOS
http://southactresstou.blogspot.com/2011/07/tamanna-wallpapers.html
PRANITHA LATEST BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html
KAJAL AGARWAL HOT SEXY PHOTOS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
KATRINA KAIF IN BEAUTIFUL RED DRESS
http://southactresstou.blogspot.com/2011/05/katrina-kaif_22.html

FOR FAST UPDATES IN TELUGU FILM INDUSTRY

PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1956. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-07 06:05:00 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1312697100@panix.com>
Source record: 4107
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

1957. HOT ACTRESS PHOTOS AND VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-07 10:57:41 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <61a349a0-883d-44f3-9e0f-14aa13f35741@m5g2000prh.googlegroups.com>
Source record: 4108

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http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html
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KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1958. Another 2M antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-07 21:29:15 UTC
From: ogrowup@webtv.net
Message-ID: <25757-4E3F03AB-518@storefull-3172.bay.webtv.net>
Source record: 4109

I was offered (for free) a VHF TV yagi anntena w/ rotor. Question: would this work a 2M antenna? With a tuner, maybe?

--
"The French have neither summer nor winter nor morals." -- Mark Twain

1959. Re: HF Antenna Options

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-07 23:43:12 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j1n7ue$ds3a$1@tr22n12.aset.psu.edu>
Source record: 4110

On 8/6/2011 6:28 PM, Kickin' Ass and Takin' Names wrote:

>> 4. Here's my idea: an end-fed wire with traps for multi-band use. I
>> don't see how I could use a center-fed dipole unless the feeder came
>> back parallel (right next to) along one leg of the dipole. In other
>> words, I can't feed at perpendicularly. For a variety of reasons, the
>> azimuth of a wire line between the two houses would be about 25
>> degrees/205 degrees.
>>
>> So . . . what do you think? What kind of performance do you think I
>> could expect from this setup?
>>
>> Many thanks! ---Todd
>
>
> Try an off-center fed dipole (OCF).

I'm inclined toward OCF also. I ran one for a while, which worked out well because I could run the feed down to the shack window right at the short side of the thing. I'd suggest a tuner as well. They do tune okay, but the tuner extends the useable frequencies. Also, my antenna was marginal at 20 meters. OCF isn't the "ideal" antenna, but you could do a lot worse.

- 73 de Mike N3LI -

1960. Re: Another 2M antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 00:18:46 UTC
From: Johnno <vk2kc@yahoo.com.au>
Message-ID: <j1na1h$89b$1@dont-email.me>
Source record: 4111

Only if you modify the yagi to resonate on 2 metres.
Here is a link that will help you:

http://www.arrl.org/files/file/Technology/tis/info/pdf/9611034.pdf

The article on the TV to 2m conversion is on the ARRL Technical Info site:

http://www.arrl.org/tis/info/Yagi-V.html

It is a copy of the original article from QST magazine, and is only
available to ARRL members from that source.

73
Johnno

"Padraigh ProAmerica" <ogrowup@webtv.net> wrote in message
news:25757-4E3F03AB-518@storefull-3172.bay.webtv.net...
>I was offered (for free) a VHF TV yagi anntena w/ rotor. Question: would
> this work a 2M antenna? With a tuner, maybe?
>

1961. Re: HF Antenna Options

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 01:53:58 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <bcgu37dbidabgrtobt1ndb3s2ued8u3p8o@4ax.com>
Source record: 4112

On Sun, 07 Aug 2011 19:43:12 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>On 8/6/2011 6:28 PM, Kickin' Ass and Takin' Names wrote:
>
>>> 4. Here's my idea: an end-fed wire with traps for multi-band use. I
>>> don't see how I could use a center-fed dipole unless the feeder came
>>> back parallel (right next to) along one leg of the dipole. In other
>>> words, I can't feed at perpendicularly. For a variety of reasons, the
>>> azimuth of a wire line between the two houses would be about 25
>>> degrees/205 degrees.
>>>
>>> So . . . what do you think? What kind of performance do you think I
>>> could expect from this setup?
>>>
>>> Many thanks! ---Todd
>>
>>
>> Try an off-center fed dipole (OCF).
>
>
>I'm inclined toward OCF also. I ran one for a while, which worked out
>well because I could run the feed down to the shack window right at the
>short side of the thing. I'd suggest a tuner as well. They do tune okay,
>but the tuner extends the useable frequencies. Also, my antenna was
>marginal at 20 meters. OCF isn't the "ideal" antenna, but you could do a
>lot worse.
>
> - 73 de Mike N3LI -

Agreed. Forgot to mention that I use a tuner with mine.

I have an old ICOM IC-729 with the companion AT-150 tuner.

1962. Vertical on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 02:42:03 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <almarsoft.1804041638909588266@news.eternal-september.org>
Source record: 4113

A while back I asked about experiences on the group with verticals on metal patio covers. Today I had a chance to run an experiment that turned out fine. There is a lot of conduit above the cover for fan, 2 outlets, and 6 lights. I used a mobile antenna roof rack mount on a section of conduit and mounted an Outbacker mobile antenna.

Twenty meters was the only band tryed, and results were OK. Best of all, the antenna received approval by "she who approves things". Next step is to put up a longer radiator without loading coils.

Wayne W5GIE
/6

1963. Re: Vertical on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 02:44:40 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j1nij7ihn2@dont-email.me>
Source record: 4114

On 8/7/2011 9:42 PM, Wayne wrote:
> A while back I asked about experiences on the group with verticals on
> metal patio covers. Today I had a chance to run an experiment that
> turned out fine. There is a lot of conduit above the cover for fan, 2
> outlets, and 6 lights. I used a mobile antenna roof rack mount on a
> section of conduit and mounted an Outbacker mobile antenna.
>
> Twenty meters was the only band tryed, and results were OK. Best of all,
> the antenna received approval by "she who approves things". Next step is
> to put up a longer radiator without loading coils.
>
> Wayne W5GIE
> /6

Good work, Wayne. Keep it up!

John KD5YI

1964. Re: Another 2M antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 03:06:26 UTC
From: Sal <sobars@aol.com>
Message-ID: <j1njq6$qo1$1@dont-email.me>
Source record: 4115

"Padraigh ProAmerica" <ogrowup@webtv.net> wrote in message
news:25757-4E3F03AB-518@storefull-3172.bay.webtv.net...
>I was offered (for free) a VHF TV yagi anntena w/ rotor. Question: would
> this work a 2M antenna? With a tuner, maybe?
>
> --
> "The French have neither summer nor winter nor morals." -- Mark Twain
>

Yes, it will work. I just tried it with my HT. From southeast of San Diego, I raised a repeater on Mt. Santiago, Orange County, with a 75-ohm directional VHF TV antenna and a half-watt signal. Santiago is 70 miles away. Disclaimer: My location, on a small hill with a generally clear view toward the North, gives me an advantage.

Then, I put the analyzer on that antenna and I was surprised to find the 2m VSWR was 3.1:1, worst case. Losses through about 50' of cable from here to the antenna no doubt helped my VSWR number.

There is some risk of using it with a high-power rig if the rig isn't internally protected against operating into an excessive VSWR. Most are.

Start at a modest power and see what happens. That's what a lot of hamming involves ... try it and see. Smoke is possible but not common.

"Sal"

1965. LATEST HOT PICS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 11:48:04 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <950e2dc8-bc20-43f1-afb7-963dfbe9b975@l11g2000prh.googlegroups.com>
Source record: 4116

LATEST HOT TAPSEE KISSING STILLS
http://southactresstou.blogspot.com/2011/06/tapsee.html
KAJAL AGARWAL ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
TAMANNA BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/05/tamanna.html
ANUSHKA SHETTY HOT SAREE STILLS
http://southactresstou.blogspot.com/2011/06/anushka-shetty.html
SNEHA RARE PHOTOS
http://southactresstou.blogspot.com/2011/05/sneha.html
NAMITHA HOT NAVEL SHOW
http://southactresstou.blogspot.com/2011/05/namitha.html
ILIYANA HOT WALLPAPERS
http://southactresstou.blogspot.com/2011/05/iliyana.html
PRIYAMANI LATEST SPICY PHOTOS
http://southactresstou.blogspot.com/2011/05/priyamani.html

1966. SOUTH ACTRESS HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 13:34:09 UTC
From: RHANI <raghavaraghavi2862@gmail.com>
Message-ID: <2d041490-bf66-4041-b316-3d86d7ceb306@s18g2000prc.googlegroups.com>
Source record: 4117

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KAJAL AGARWAL HOT SEXY PHOTOS
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KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1967. Re: Another 2M antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 15:54:28 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <ch1047tqgdv7alhvqfa64a7vjcrng0jh8c@4ax.com>
Source record: 4118

On Sun, 7 Aug 2011 17:29:15 -0400, ogrowup@webtv.net (Padraigh
ProAmerica) wrote:

>I was offered (for free) a VHF TV yagi anntena w/ rotor. Question: would
>this work a 2M antenna? With a tuner, maybe?
Take it before they change their mind!
The rotor is a definate yes and 2 meter antennas are about as easy as
it can ever be with building antennas!

1968. Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 23:14:57 UTC
From: DrYattz <winwinsit@gmail.com>
Message-ID: <dfaa8ddc-51a2-40e1-9fca-a2a32b9552c2@b19g2000yqj.googlegroups.com>
Source record: 4119

My 15 year old son is exploring shortwave radio, and has purchased a Realistic DX-394a. We're experimenting with various antenna configurations, now trying an inverted L. The layout so far can be seen at:

http://i258.photobucket.com/albums/hh242/winwinsit/antenna2.jpg

So, a single strand wire crosses the yard at a height of about 14-18 feet, stretched east-west, insulated at each end, and another length of wire connected to it drops to below a window, then passes through the wall and to the Hi-Z antenna input. (The diagram shows a lightning arrestor, but that isn't attached yet.)

But it seems to offer little or no advantage over the little telescoping antenna. In fact, the best reception is when we touch the antenna lead wire to the telescoping antenna. Do you suggest:

1) an antenna tuner?

2) coaxial cable running from the radio (Lo-Z input) to the end of the 75 foot run?

3) a north-south run?

4) a completely different configuration?

5) anything else?

Rees Chapman
winwinsit at gmail period com

1969. Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-08 23:17:44 UTC
From: DrYattz <winwinsit@gmail.com>
Message-ID: <69681307-b9df-4015-924b-4596a32fc72a@q15g2000yqk.googlegroups.com>
Source record: 4120

My 15 year old son is exploring shortwave radio, and has purchased a Realistic DX-394a. We're experimenting with various antenna configurations, now trying an inverted L. The layout so far can be seen at:

http://i258.photobucket.com/albums/hh242/winwinsit/antenna2.jpg

So, a single strand wire crosses the yard at a height of about 14-18 feet, stretched east-west, insulated at each end, and another length of wire connected to it drops to below a window, then passes through the wall and to the Hi-Z antenna input. (The diagram shows a lightning arrestor, but that isn't attached yet.)

But it seems to offer little or no advantage over the little telescoping antenna. In fact, the best reception is when we touch the antenna lead wire to the telescoping antenna. Do you suggest:

1) an antenna tuner?

2) coaxial cable running from the radio (Lo-Z input) to the end of the 75 foot run?

3) a north-south run?

4) a completely different configuration?

5) anything else?

Rees Chapman
winwinsit at gmail period com

1970. Saint Bernadette 3-18-72

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-09 00:43:27 UTC
From: remicck@yahoo.com
Message-ID: <bdad5852-e20b-4fd9-acfb-4a687d4ff979@o26g2000vbi.googlegroups.com>
Source record: 4121

St. Bernadette says,
"And now as I stand Here in the Heavens with The
Beloved Mother, with The Divine Holy Trinity, I am
allowed to speak to you to help you come Here. The
purpose of this Great Miracle is to teach you God's
Way, to give you firsthand, His Wisdom, His Truths.
So, I repeat to you what The Heavenly Mother once
said to me: 'Walk in modesty, walk in purity, walk
in obedience, walk in trusting God alone, walk in a true
love and not an imaginary one."

REVELATION DELIVERED THROUGH FRANCES M. KLUG
ON MARCH 18,1972- EVENING

SAINT BERNADETTE

"My beloved children, I am Saint Bernadette
and I come to you on this night for a special reason.
When Our Lady appeared to me when I was in the world,
She stressed purity, She stressed modesty, She stressed
truth and She stressed self-discipline, and She stressed
doing all things God's Way and in His Will. And now,
as I come to you on this night through a child as you,
time is repeated, and there are similarities here as I
speak to you.

Many men said that my Visions could not be true.
I knew they were, for you see, when Our Lady spoke
to me, She spoke of the Divine Beauty of Heaven. And
I knew, the manner in which She spoke, the feeling I
had when She spoke, the sight I saw with my eyes,
could not have been imagination nor man. I carried the
beauty of this all through my life and when my physical
time was about to end, I did not feel pride in having
seen what I had, but I felt a great desire to do all I
could to help other men.

And now as I stand Here in the Heavens with The
Beloved Mother, with The Divine Holy Trinity, I am
allowed to speak to you to help you come Here. The
purpose of this Great Miracle is to teach you God's
Way, to give you firsthand, His Wisdom, His Truths.
So, I repeat to you what The Heavenly Mother once
said to me: 'Walk in modesty, walk in purity, walk
in obedience, walk in trusting God alone, walk in a true
love and not an imaginary one.'

I bless you with God's Love and I say, 'Hold tight
to the Holy Rosary every day, and when you do your
Heavenly Mother loves you.' So be it."

Saint Joseph's Hill Of Hope
Brea, California 92822 U.S.A.
www.TheMiracleOfStJoseph.org
All Revelations are delivered spontaneously
and continuously as witnessed by all those
present at the time.
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1971. Re: Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-09 01:49:19 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j1q3nekcp1@dont-email.me>
Source record: 4122

On 8/8/2011 6:17 PM, DrYattz wrote:
> My 15 year old son is exploring shortwave radio, and has purchased a
> Realistic DX-394a. We're experimenting with various antenna
> configurations, now trying an inverted L. The layout so far can be
> seen at:
>
> http://i258.photobucket.com/albums/hh242/winwinsit/antenna2.jpg
>
> So, a single strand wire crosses the yard at a height of about 14-18
> feet, stretched east-west, insulated at each end, and another length
> of wire connected to it drops to below a window, then passes through
> the wall and to the Hi-Z antenna input. (The diagram shows a
> lightning arrestor, but that isn't attached yet.)
>
> But it seems to offer little or no advantage over the little
> telescoping antenna. In fact, the best reception is when we touch the
> antenna lead wire to the telescoping antenna. Do you suggest:
>
> 1) an antenna tuner?
>
> 2) coaxial cable running from the radio (Lo-Z input) to the end of the
> 75 foot run?
>
> 3) a north-south run?
>
> 4) a completely different configuration?
>
> 5) anything else?
>
> Rees Chapman
> winwinsit at gmail period com

Check for a slide switch on the back that switches from internal to
external antenna.

Cheers,
John KD5YI

1972. Re: Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-09 03:31:09 UTC
From: Sal <sobars@aol.com>
Message-ID: <j1q9lt$kb4$1@dont-email.me>
Source record: 4123

"DrYattz" <winwinsit@gmail.com> wrote in message
news:69681307-b9df-4015-924b-4596a32fc72a@q15g2000yqk.googlegroups.com...
> My 15 year old son is exploring shortwave radio, and has purchased a
> Realistic DX-394a. We're experimenting with various antenna
> configurations, now trying an inverted L. The layout so far can be
> seen at:
>
> http://i258.photobucket.com/albums/hh242/winwinsit/antenna2.jpg
>
> So, a single strand wire crosses the yard at a height of about 14-18
> feet, stretched east-west, insulated at each end, and another length
> of wire connected to it drops to below a window, then passes through
> the wall and to the Hi-Z antenna input. (The diagram shows a
> lightning arrestor, but that isn't attached yet.)
>
> But it seems to offer little or no advantage over the little
> telescoping antenna. In fact, the best reception is when we touch the
> antenna lead wire to the telescoping antenna. Do you suggest:
>
> 1) an antenna tuner?
>
> 2) coaxial cable running from the radio (Lo-Z input) to the end of the
> 75 foot run?
>
> 3) a north-south run?
>
> 4) a completely different configuration?
>
> 5) anything else?
>
> Rees Chapman
> winwinsit at gmail period com

I found the manuals and the schematic online but I still need to engage in guesswork. Work with me.

You said best reception is obtained by touching your lead-in to the telescoping antenna. Would you believe there is one and only one component betweent the ANT HI-Z jack and the termination of the telescoping antenna? it's a15 pF coupling capacitor. I guess it's bad .

Its reference designation is C179. There is another component in the circuit, a 100K static drain resistor, R190, connected to ground. Resistors rarely short out, so I won't guess that; besides, if it were to short, it would hamper reception with the telescoping whip.

Connecting your outside antenna to the telecoping whip with a clip lead may be OK, now and forever. I'd like to see you do it through a 15 pF capacitor, if possible. This project/repair may end here.

If you want to proceded with troubleshooting, connect your antenna to the ANT HI-Z jack. Open the case and move the body of the ANT HI-Z jack while listening. Wiggle it gently. The solder joint to the PC board may have cracked. I've seen about six of these failures with consumer equipment. Sometimes an easy fix, sometimes a PITA.

If you can locate the junction of C179 and R190, touch your antenna lead to that point instead, still while listening. There is no voltage there and you can't be hurt. (It's like touching the telescoping whip, actually.) R190 is a few milimeters in from the ANT HI-Z jack on top of the board. It's an easy reach. I can't tell you which end is which. If you touch the ground end first, nothing will happen, if you touch the correct end first (and the ANT HI-Z jack is bad) you will hear signals. If you don't hear them, it's probably C179 that's bad.

Maybe I've gone too fast and confused you. Read it again and/or get back to me.

I guess one other option is to try your other connection for an external antenna, labeled "ANT LO-Z". What does that do for ya? If you were to change your antenna to a coaxial-fed dipole, the ANT LO-Z would probably be a good match at most frequencies. If you are already "experimenting with various antenna configurations," you ought to try that one, too. The attenator switch, ATT 0dB - 20dB, is in-line with that path; work the switch a few times to be sure it's free of corrosion enough for good contacts.

Feedback to me would be nice. A Nobel Prize would be a bonus.

"Sal"
(KD6VKW)

1973. Re: Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-09 21:02:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ch6347lpjfpn86oi887qhn4plsmadr1oam@4ax.com>
Source record: 4124

On Mon, 8 Aug 2011 16:14:57 -0700 (PDT), DrYattz <winwinsit@gmail.com>
wrote:

>In fact, the best reception is when we touch the
>antenna lead wire to the telescoping antenna.

I would suspect that if you simply touched the same place with your
finger (no antenna then either) you would get "the best reception."

>Do you suggest:
>
>1) an antenna tuner?

Very much suggested, yes.

>2) coaxial cable running from the radio (Lo-Z input) to the end of the
>75 foot run?

A move in this direction would foster more options when you experiment
with other antennas.

Also, use the LO-Z input, even if you don't choose to go with coax
cable right now.

>3) a north-south run?

Sure, but that isn't the answer to your immediate problem.

Hi Rees,

The advantage found in using a tuner is that it can cure "deafness"
induced by nearby strong transmitters overloading your receiver's
front end (the first stages of amplification). Such a problem is
rarely obvious aside from the general sense of lack of sensitivity -
and yet this symptom is often the most definite cue. Many who choose
to ignore this necessity proudly proclaim how good their set is, not
knowing that it could be vastly better.

Even though you may not be tuned to the local AM transmitter a couple
of miles away, its strength can be 100,000 times stronger than what
you are attempting to tune in. This signal will force its way into
your radio and develop a voltage called AGC which lowers your radio's
sensitivity - by design.

The solution here is to exclude that signal before it gets in, and to
include that signal that you want to hear so it can get in. This is
the function of a tuner. This function used to be part and parcel to
older non-computerized receivers (read tube-sets and expensive solid

state models). You can add it back in quite simply. Shop for the cheapest amateur radio antenna tuner that has two variable capacitors, and a switched inductor - and WITHOUT a meter. You can buy one with a meter, but the meter will not be functional for reception, it will probably cost more, but it will still suit the required function of tuning. There are sure to be SW specific tuners out there. They don't bring anything extra to the table except for smaller size, perhaps - and they could be expensive for no real advantage.

If you read this last paragraph closely, it gives a clue to a project you and your son could engage in: constructing a tuner from parts. Here's the simple list:

1. Box (any material, but metal is best);
2. Input connector;
3. Input capacitor with knob;
4. Switch with knob for coil inductor;
5. Coil inductor with taps for switch;
6. Output capacitor with knob;
7. Output connector.

That's it. Values for the components, how to arrange them, and where to find them can be left to investigation on the Web.

73's
Richard Clark, KB7QHC

1974. HOT ACTRESS PHOTOS AND VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 00:25:35 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <6d6924f9-6de7-4e04-b62d-32ef89b6188f@j37g2000prh.googlegroups.com>
Source record: 4125

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http://goodjobssites.blogspot.com/

FOR HOT PHOTO&VIDEOS

KATRINA KAIF RARE PHOTOS
http://southactresstou.blogspot.com/2011/07/katrina-kaif-wallpapers.html
KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
TAMANNA HOT SEXY PHOTOS & VIDEOS
http://southactresstou.blogspot.com/2011/07/tamanna-wallpapers.html
PRANITHA LATEST BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html
KAJAL AGARWAL HOT SEXY PHOTOS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
KATRINA KAIF IN BEAUTIFUL RED DRESS
http://southactresstou.blogspot.com/2011/05/katrina-kaif_22.html

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PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1975. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 05:07:16 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <2a0a6488-2619-4dcc-a84c-93f4199724ab@fv14g2000vbb.googlegroups.com>
Source record: 4126

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http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

1976. Re: Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 09:39:47 UTC
From: DrYattz <winwinsit@gmail.com>
Message-ID: <faff16f9-7bcf-4e6c-a460-d01e373795db@e35g2000yqc.googlegroups.com>
Source record: 4127

THANKS, everyone, for the very thoughtful and thorough responses!

John KD5YI wrote:

> Check for a slide switch on the back that switches from internal to external antenna.

Would that be the ATT 0dB - 20dB switch? They show it in a figure,
but don't say what it's for. I'll try it.

Sal wrote:

> Feedback to me would be nice. A Nobel Prize would be a bonus.

Your detailed suggestions of the antenna connections and
troubleshooting are quite helpful. I will return to them if the new
configuration doesn't work.

Jim Higgins wrote:

> Why aren't you connecting the antenna to the Lo-Z SO-239 connector
instead of the Hi-Z Motorola type connector? (Other than the manual
telling you to use the Hi-Z.)

Right. Apparently, Radio Shack improved the DX-394, but kept the
crappy manual. Getting the antenna higher would help, I'm sure, but
for now I'm stuck with what I've got.

Richard Clark KB7QHC wrote:

> If you read this last paragraph closely, it gives a clue to a project
you and your son could engage in: constructing a tuner from parts.

I appreciate the suggestions. But I'm going to take the easy way for
now.

These have led me to try another configuration; what I'm imagining is
at http://i258.photobucket.com/albums/hh242/winwinsit/antenna2-1.jpg

The lightning arrestor I'm considering is at http://ba-electronics.com/a28.htm.

I'm wondering:

1) if this new configuration makes sense.

2) if I should use coaxial cable at A (between the tuner and the
lightning arrestor) since the connectors are SO-239 and PL-259? Or
should I just run more of the insulated wire?

3) about coaxial cable at B (from the arrestor to the antenna wire)?

4) if this antenna tuner would be adequate? MFJ-16010 at http://www.universal-radio.com/catalog/preamps/1329.html. If not, any other recommendations?

Thanks again!

Rees

1977. Re: Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 11:15:36 UTC
From: DrYattz <winwinsit@gmail.com>
Message-ID: <2a54fd74-49f0-4cea-93d8-1982265fb45e@t5g2000yqj.googlegroups.com>
Source record: 4128

For some reason, the photobucket image of the new configuration
doesn't seem to appear. Try this?

http://i258.photobucket.com/albums/hh242/winwinsit/antenna2-1.jpg?t=1312974756

Rees

On Aug 10, 5:39 am, DrYattz <winwin...@gmail.com> wrote:
> THANKS, everyone, for the very thoughtful and thorough responses!
> _____
>
> John KD5YI wrote:
> > Check for a slide switch on the back that switches from internal to external antenna.
>
> Would that be the ATT 0dB - 20dB switch? They show it in a figure,
> but don't say what it's for. I'll try it.
>
> Sal wrote:
> > Feedback to me would be nice. A Nobel Prize would be a bonus.
>
> Your detailed suggestions of the antenna connections and
> troubleshooting are quite helpful. I will return to them if the new
> configuration doesn't work.
>
> Jim Higgins wrote:
>
> > Why aren't you connecting the antenna to the Lo-Z SO-239 connector
> instead of the Hi-Z Motorola type connector? (Other than the manual
> telling you to use the Hi-Z.)
>
> Right. Apparently, Radio Shack improved the DX-394, but kept the
> crappy manual. Getting the antenna higher would help, I'm sure, but
> for now I'm stuck with what I've got.
>
> Richard Clark KB7QHC wrote:
> > If you read this last paragraph closely, it gives a clue to a project
>
> you and your son could engage in: constructing a tuner from parts.
>
> I appreciate the suggestions. But I'm going to take the easy way for
> now.
> _____
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> lightning arrestor) since the connectors are SO-239 and PL-259? Or
> should I just run more of the insulated wire?
>
> 3) about coaxial cable at B (from the arrestor to the antenna wire)?
>
> 4) if this antenna tuner would be adequate? MFJ-16010
athttp://www.universal-radio.com/catalog/preamps/1329.html. If not, any
> other recommendations?
>
> Thanks again!
>
> Rees

1978. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 13:20:40 UTC
From: "Stuart Longland (VK4MSL)" <me@vk4msl.yi.org>
Message-ID: <bcab9954-52d8-42ba-ae8b-dc8923633664@s18g2000prc.googlegroups.com>
Source record: 4129

On Aug 1, 6:32 am, KD2AIP <emmett.ho...@gmail.com> wrote:
> Anyone have experience making a dipole from 18 gauge speaker wire? I
> have a whole lot of it lying around the house, and was wondering if I
> could put it to some good use.

Well, not sure what gauge wire it is, but I've been using cheap
speakerwire for HF dipoles with no problems whatsoever. Not certain,
but I think this is the stuff I use here:

http://www.jaycar.com.au/productView.asp?ID=WB1709&form=CAT2&SUBCATID=992#1

My prime HF antenna started out as a coax-fed 40m half-wave (10m/leg)
dipole made of this stuff in an inverted-V configuration. I used a
home made 1:1 voltage balun at the feed point. Over time, I moved the
feed point to near the back of the tuner with a short 3in length of
coax, and ran a random length of 300ohm ribbon to the feed point of
the dipole.

Later after reading about the G5RV, I extended each leg to 16m long.
It is important to note that while similar to a G5RV, my antenna does
not feature the same length of ribbon as a G5RV. The antenna is not
mounted up high, the apex would be at gutter level (we have a two-
storey house here). Legs tie off no higher than 2m in the air. One
end ties off to a frangipannie (sp?) tree in our front yard, the other
to a piece of rope running to a macadamia tree in our back yard. I
have a feeling the frangipannie is helping form part of the antenna.

This antenna, while quite deaf I find on the 10m band, has worked into
VK5 on 15m, I have had contacts into ZL on 20m, and it works quite
well locally on 40m and 80m. I have had successful contacts using QRP
power levels on 80m with this antenna, and it is very easy to tune
there.

It has broken once or twice. It has never taken me any longer than
about 15 minutes to repair and get back up in the air. It's also
cheap enough to consider being disposable, should disaster truly
strike.

So I say, go for it … it might as well do something useful.

Regards,
Stuart VK4MSL

1979. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 13:43:38 UTC
From: raypsi <rborowiak@gmail.com>
Message-ID: <c70f0cd4-ea7f-490d-a814-0f2d84e44588@a17g2000yqk.googlegroups.com>
Source record: 4130

Hey OM
The baluns I like to use are choke baluns and real transmission line
baluns, for ten meters and a 66% velocity factor coax that is 11ft of
RG213. That is 4:1 on ten meters only. And the high current, high
voltage nodes are at the ends of the coax.
73 OT
de N8ZU

On Jul 3, 6:50 pm, <m...@privacy.net> wrote:
> On 2 Jul,
>   Michael <goo...@shadowstorm.com> wrote:
>
> > So....,does anyone have any plans for a 4:1 air core balun for feeding
> > 450 ladder from a tuner that you have actually tested and used that
> > and it shows close to a 1.1:a SWR when presented with a 200 ohm load?
>
> Why not just use a(n electrical) half wave loop of coax if you are only using
> it on 10metres? Or even just a Pawsey stub for a balun and match elsewhere.
> You can do a lot of (single band) matching with just a quarter wave of open
> wire line with shorts/open circuits and taps.
>
> --
>   BD
>   Change lycos to yahoo to reply

1980. Coax balun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 23:50:13 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j1v5g0$9qm$1@dont-email.me>
Source record: 4131

I found a 50 year old pencil drawn schematic that was done by an Collins Radio engineer. So....anyone ever use a coax balun as described below?

Wind a 3.5 inch diameter with 7 turns of RG-58. Space the turns such that the coil is 4 inches long.
Connect the output of an antenna tuner to one of the balanced feedline conductors. At one end of the coax coil connect the braid to the antenna tuner output, and the center connector of the coax to ground.

The other end of the coiled coax: connect the center conductor to the other balanced feedline conductor. Connect the braid at that end of the coil to ground.

Comments?

-Wayne
W5GIE
/6

1981. Re: Coax balun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-10 23:56:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9k6647dj5mss5cdi9692fdmib400mmk01k@4ax.com>
Source record: 4132

On Wed, 10 Aug 2011 16:50:13 -0700, "Wayne" <mygarbagecan@verizon.net>
wrote:

>I found a 50 year old pencil drawn schematic that was done by an Collins
>Radio engineer. So....anyone ever use a coax balun as described below?
>
>Wind a 3.5 inch diameter with 7 turns of RG-58. Space the turns such that
>the coil is 4 inches long.
>Connect the output of an antenna tuner to one of the balanced feedline
>conductors. At one end of the coax coil connect the braid to the antenna
>tuner output, and the center connector of the coax to ground.
>
>The other end of the coiled coax: connect the center conductor to the other
>balanced feedline conductor. Connect the braid at that end of the coil to
>ground.
>
>Comments?
>
>-Wayne
>W5GIE
>/6
>

Sounds like a pipe-dream.

It would make more sense if two coax baluns were used, symmetrically.

73's
Richard Clark, KB7QHC

1982. Re: Coax balun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-11 00:29:48 UTC
From: dplatt@radagast.org
Message-ID: <sckbh8-khr.ln1@radagast.org>
Source record: 4133

In article <j1v5g0$9qm$1@dont-email.me>,
Wayne <mygarbagecan@verizon.net> wrote:

>I found a 50 year old pencil drawn schematic that was done by an Collins
>Radio engineer. So....anyone ever use a coax balun as described below?

Many people have. It's also often referred to as a "common mode choke".

One nice characteristic of them is that they don't contain ferrite or
iron cores which could saturate (and create distortion and harmonics)
at high RF current levels.

>Wind a 3.5 inch diameter with 7 turns of RG-58. Space the turns such that
>the coil is 4 inches long.
>Connect the output of an antenna tuner to one of the balanced feedline
>conductors. At one end of the coax coil connect the braid to the antenna
>tuner output, and the center connector of the coax to ground.

I'm not sure why he specified hooking the braid to the tuner output
and the center conductor to ground. Most people do it the other way
around (it's easier to connect to a PL-259 that way).

Doing it his way brings the "hot" side of the tuner output out closer
to where one might touch it... there may be more of a risk of a shock
or flashover-to-ground situation here, if the SWR on the line is high
and the tuner is looking into a high impedance at the input of the
choke.

This may not be an issue in your particular deployment.

>The other end of the coiled coax: connect the center conductor to the other
>balanced feedline conductor. Connect the braid at that end of the coil to
>ground.
>
>Comments?

http://www.hamuniverse.com/balun.html shows numerous variations on
this same basic idea, and there are about a zillion others out there
on the Net and in the literature.

There are numerous variations:

- Single-layer solenoid-wound (as in the one you described), either
close-wound or spaced.

- Multiple-layer solenoid-wound.

- Scramble-wound.

Different winding style will give different amounts of inductance, and different (sometimes very different) amounts of distributed capacitance.

If I understand the situation correctly, a winding style with low distributed capacitance (e.g. single-layer solenoid-wound with space turns) functions primarily as a common-mode inductive choke... fairly broad-band, *if* you have enough turns to give you the necessary amount of common-mode inductance.

A choke which is multi-layer (perhaps even scramble-wound) can have more distributed capacitance, and it can act as a parallel-resonant trap at certain frequencies... giving a nice, high choking impedance at those frequencies. Above and below that resonance, though, its impedance can drop off fairly rapidly, and it may not choke the line effectively. Coaxial chokes of this sort are (I believe) often wound to give optimal performance on one or two bands.

[I could well be wrong about these details... it's been a while since I looked at this subject in any detail.]

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

1983. FS Realistic PRO-2003 AM/FM scanner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-11 03:38:32 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <j1virlcmk1@dont-email.me>
Source record: 4134

I have a Realistic PRO-2003 AM/FM scanning receiver for sale. It is in very good shape and comes with the manual. I'm asking $50 plus postage for it. You may contact me off the newsgroup.

Thanks

Henry

1984. Re: Coax balun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-11 03:57:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F3E8DF5BC17Bnonenowhere@88.198.244.100>
Source record: 4135

"Wayne" <mygarbagecan@verizon.net> wrote in
news:j1v5g0$9qm$1@dont-email.me:

> I found a 50 year old pencil drawn schematic that was done by an
> Collins Radio engineer. So....anyone ever use a coax balun as
> described below?
>
> Wind a 3.5 inch diameter with 7 turns of RG-58. Space the turns such
> that the coil is 4 inches long.
> Connect the output of an antenna tuner to one of the balanced feedline
> conductors. At one end of the coax coil connect the braid to the
> antenna tuner output, and the center connector of the coax to ground.
>
> The other end of the coiled coax: connect the center conductor to the
> other balanced feedline conductor. Connect the braid at that end of
> the coil to ground.
>
> Comments?
>

Wayne, the device as you describe it is a form of balun (being a device that facilitates a transition between states of balance).

Considering the ATU output terminal to have voltage V, V is applied directly to one feedline conductor, and if the common mode impedance of the coaxial choke is sufficiently high and its length sufficiently short, approximately -V to the other conductor... so it implements a 1:4 impedance transformation.

The problem is with the "sufficiently" qualifications above. The common mode impedance of a coil of coax like this has been well explored, it has a very high impedance over a narrow range near resonance, and mediocre to low away from resonance, and so not well suited to broadband use.

Nevertheless, these types of things have appeal to those who are prejudiced against ferrite, or who just do things on the cheap.

I hasten to add that I have used just such a coil of coax as a single band 1:1 current balun, but it was carefully resonated for the band in use, and it measured much higher common mode impedance than practical ferrite cored baluns.

Mentioning current baluns, you describe a balun that could not be categorised as an effective current balun, as if you were to ground the side of the load direct connected to the ATU, the whole thing fails.

I know that to many there is a magic to all things that came from Collins, but you don't see this widely done, and for good reason.

Owen

1985. Re: Does anyone have plans for a 4:1 air core balun that actually works?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-11 08:30:20 UTC
From: Ben / SM0KBW <kbw@allt2.se>
Message-ID: <9ahi8bFoarU1@mid.individual.net>
Source record: 4136

raypsi skrev 2011-08-10 15:43:
> Hey OM
> The baluns I like to use are choke baluns and real transmission line
> baluns, for ten meters and a 66% velocity factor coax that is 11ft of
> RG213. That is 4:1 on ten meters only. And the high current, high
> voltage nodes are at the ends of the coax.
> 73 OT
> de N8ZU
>
>
>
>
> On Jul 3, 6:50 pm,<m...@privacy.net> wrote:
>> On 2 Jul,
>> Michael<goo...@shadowstorm.com> wrote:
>>
>>> So....,does anyone have any plans for a 4:1 air core balun for feeding
>>> 450 ladder from a tuner that you have actually tested and used that
>>> and it shows close to a 1.1:a SWR when presented with a 200 ohm load?
>>
>> Why not just use a(n electrical) half wave loop of coax if you are only using
>> it on 10metres? Or even just a Pawsey stub for a balun and match elsewhere.
>> You can do a lot of (single band) matching with just a quarter wave of open
>> wire line with shorts/open circuits and taps.
>>
>> --
>> BD
>> Change lycos to yahoo to reply
>

I have had success using a construction similiar to:

http://www.arising.com.au/people/Holland/Ralph/CM4Balun.htm

Two coils are made out of two pieces 75 Ohm coax, each 4m long.
As coil forms i'm using tubular foam pipe isolation. I dont know
the correct word for them in English ;) The type used has a diameter
of 6 cm.

These baluns has served me well. Using TV-coax, the whole construction
wheights very little.

73
Ben / SM0KBW

1986. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-11 10:21:57 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <33b39102-8a8f-4161-9d31-7bc46ae02e07@gz10g2000vbb.googlegroups.com>
Source record: 4137

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http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

1987. Re: Coax balun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-11 16:56:59 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j211lc$ra0$1@dont-email.me>
Source record: 4138

"Owen Duffy" wrote in message
news:Xns9F3E8DF5BC17Bnonenowhere@88.198.244.100...

"Wayne" <mygarbagecan@verizon.net> wrote in
news:j1v5g0$9qm$1@dont-email.me:

> I found a 50 year old pencil drawn schematic that was done by an
> Collins Radio engineer. So....anyone ever use a coax balun as
> described below?
>
> Wind a 3.5 inch diameter with 7 turns of RG-58. Space the turns such
> that the coil is 4 inches long.
> Connect the output of an antenna tuner to one of the balanced feedline
> conductors. At one end of the coax coil connect the braid to the
> antenna tuner output, and the center connector of the coax to ground.
>
> The other end of the coiled coax: connect the center conductor to the
> other balanced feedline conductor. Connect the braid at that end of
> the coil to ground.
>
> Comments?
>

Wayne, the device as you describe it is a form of balun (being a device that facilitates a transition between states of balance).

Considering the ATU output terminal to have voltage V, V is applied directly to one feedline conductor, and if the common mode impedance of the coaxial choke is sufficiently high and its length sufficiently short, approximately -V to the other conductor... so it implements a 1:4 impedance transformation.

The problem is with the "sufficiently" qualifications above. The common mode impedance of a coil of coax like this has been well explored, it has a very high impedance over a narrow range near resonance, and mediocre to low away from resonance, and so not well suited to broadband use.

Nevertheless, these types of things have appeal to those who are prejudiced against ferrite, or who just do things on the cheap.

I hasten to add that I have used just such a coil of coax as a single band 1:1 current balun, but it was carefully resonated for the band in use, and it measured much higher common mode impedance than practical ferrite cored baluns.

Mentioning current baluns, you describe a balun that could not be categorised as an effective current balun, as if you were to ground the side of the load direct connected to the ATU, the whole thing fails.

I know that to many there is a magic to all things that came from Collins, but you don't see this widely done, and for good reason.

Owen
****
Thanks for the comments Owen. I was curious about the schematic, but tend to stick with my "on hand" ferrite baluns.
--Wayne

1988. FDC FD-880 Dual Band 136-174/400-480Mhz FM Radio

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-11 17:31:16 UTC
From: Scott Smith <scott93727@gmail.com>
Message-ID: <86e5c6c0-7f0c-4ff4-9263-e0d915d9c6bf@y19g2000pre.googlegroups.com>
Source record: 4139

FDC FD-880 Dual Band 136-174/400-480Mhz FM Radio
http://www.409shop.com/409shop_product.php?id=106081
Special features

Dual band,dual Freq.,dual display and dual standby
Working Mode:U-V,U-U,V-V can be set freely.
Band can be set freely on the same channel:VHF TX-UHF RX or UHF TX-
VHF RX.

PTT ID function;DTMF function
Offset Freq and Freq.shift direction can be set.
Keypad lock (Auto/Manual);Busy channel lockout

Water-proof;Wired clone function
Built-in FM radio;Led flashlight
3 displaying modes selectable(CH,FREQ,CH Name)

VOX function;Stopwatch function
Priority Scan;Multiple Scan modes;Adding channel scan
Emergency Alarm function;Wired clone function

Reverse freq.function
Multipe Step frequency(5/6.25/10/12.5/25/50/100KHz)
Charging directly from the power supply.You can also
charge your radio by connecting the supplied ac adapter directly to
your radio.

Technical specifications

Model NO. FD-880(Dual-band)

General Frequency Band VHF UHF
Frequency Range 136-174MHz 400-480MHz
Channel Capacity 128
Operating Voltage 7.2V DC ±15%
Antenna Impedance 50O
Channel Spacing 12.5kHz/25kHz
Working Temperature -30 ? - +60 ?
Frequency Stability ±2.5 ppm
Size (Without Antenna) 104(W)mmx62(L)mmx36mm(D)
Weight(With Battery) about 250g
Battery 1500 mAh(Li-ion)
Transmitter RF Pwr Output 5W/4W
Modulation Type F3E
Modulation Distortion < 5%(300-3000Hz)
Max Freq Deviation < 5kHz(1000Hz When 100%)
FM Noise <=-45dB

Receiver
Sensitivity (12Db SINAD) 0.16μV
Selectivity 55dB
Adjacent Channel Selecivity >=70dB
Noise Respond >=60dB
Communication Range 3-5km(Downtown),6-20km(In the Open Area)
FM Noise 30dB/40dB
Modulation Type 8K/16KF3E
Audio Power Output 500mW When Distortion Less Than 10%
Audio Distortion < 5%
Operating Bandwidth ±3.5kHz/3.75kHz
Standby Current < 12mA

Each Set PACKAGE CONTAIN

1 x FDC FD-880 (VHF136-174 / UHF 400-480Mhz Dual Band)
1 x 7.4v 1600mAh Li-ion Battery
1 x Dual band Antenna.
1 x Belt Clip.
1 x ENG Manual
1 x Wall Charger PSU (Provide PSU plug for your Country)
1 x 12V Car Charger Cable
1 x PTT Earpiece for free

Where to buy
http://www.409shop.com/409shop_product.php?id=106081

1989. Re: FS Realistic PRO-2003 AM/FM scanner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 01:38:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4e44840a$0$79795$8046368a@newsreader.iphouse.net>
Source record: 4140

On 8/10/2011 10:38 PM, Henry wrote:
> I have a Realistic PRO-2003 AM/FM scanning receiver for sale. It is in
> very good shape and comes with the manual. I'm asking $50 plus postage
> for it. You may contact me off the newsgroup.
>
> Thanks
>
> Henry

This group does not desire or appreciate for sale items.

Thanks.

tom
K0TAR

1990. My LDG Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 03:04:59 UTC
From: Sal <sobars@aol.com>
Message-ID: <j2258p$3s0$1@dont-email.me>
Source record: 4141

I'm sharing a good experience I had with LDG. At our local club meeting, Thursday, Aug 4, I bought an LDG AT-11MP. It's a discontinued item. At $10.00 it was a bargain but it needed two new front-panel toggle switches. They were physically damaged.

On Friday, Aug 5, I messaged LDG on their website and asked how to buy them switches. I said I'd send a check if they shipped with an invoice. The next day, while browsing in a surplus store, I found switches and put them in, so I messaged again, saying I had repaired the unit. I said if they had already sent me two switches, I'd honor the invoice and keep the switches.

Imagine my surprise when I got an email a few hours later (still Saturday) saying thar the switches were scheduled to go out but may not have been shipped. If I receceived them, I could just keep them! So apparently they weren't even going to invoice for them! A gift!

Life is Darn Good (get it?) and they made a new friend.

"Sal"
(KD6VKW)

1991. Re: FS Realistic PRO-2003 AM/FM scanner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 08:42:27 UTC
From: IfIruledtheworld@evrydaywouldbethefirstdayofspring.com
Message-ID: <%H51q.50063$Ah6.40629@newsfe26.ams2>
Source record: 4142

This group does not desire or appreciate for sale items.

+ there are only six posters/readers here so your wasting your time...

1992. Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 09:23:13 UTC
From: DrYattz <winwinsit@gmail.com>
Message-ID: <c09a0a04-61ed-424a-acaa-85ff0abdeb23@b34g2000yqi.googlegroups.com>
Source record: 4143

Having but recently returned to the world of shortwave radio, I'm trying to be better informed about technical and safety issues than I was as a kid. Now a homeowner with a mortgage and a homeowner's insurance policy, I'm worried about lightning protection. I'm receiving only, not transmitting. I have a ground rod just outside the window where the antenna wire enters, and I intend to disconnect the antenna outside the house when I'm not using the shortwave. But I want to be extra careful!

So I'm considering some options. Which make sense to you seasoned hams? Do any of these leave me open to my homeowner's insurance being voided if I get a direct hit by lightning?

I ordered this before I read the disclaimer: just "better than nuthin?"

http://www.universal-radio.com/catalog/protect/4618.html

The Opek A7516 Lightning Arrestor is not the "state-of-the-art" in radio protection. These "air gap" arrestors were OK for tube sets, but are not the best for today's solid-state rigs. However, if you are on a budget, this device is a whole lot better than nuthin! As with all lightning protection devices; you must connect it to an earth ground with thick ground wire, and it is not going to provide protection in the event of a direct hit.

So, here's a better gas-discharge arrestor:

http://www.universal-radio.com/catalog/protect/5611.html

The LDG SP-200 surge protector operates from DC to 1500 MHz with a 200 watt power capacity. The SP-200 protects coax feedlines from surges exceeding 230V, such as caused by nearby lightning strikes and static build-up. The SP-200 employs a gas-discharge tube that arcs-over when 230VDC is exceeded between the RF center pin and shield connections.

A variation, with different connectors:

http://www.radiolabs.com/products/antennas/accessories/lightning-protection.php

Ultra Fast Gas Discharge
0.4db Max Insertion Loss
350V or 90V Breakdown Voltage
VSWR Better than 1.5:1

Passes DC voltage
200W Operation

This doesn't say if it uses gas or air:

http://www.jetstream-usa.com/instructions/jtla1.pdf

Model # JTLA1
1.5-200 Mhz
50 ohm
8 kW PEP, 4 kW DC
Insertion Loss: Less than .1db
Surge Current Capacity 20,000 Amperers
VSWR Less Than 1.1:1 @ 1000Mhz
Voltage Attack Time: 0 to 10 Billionths of a second

Can I use something like this? It's designed for fences, but could
easily be rigged for an antenna input:

http://www.zarebasystems.com/store/electric-fence-accessories/la1

Protecting the fence charger from lightning strikes on the fence line.
This lightning arrestor creates a path of least resistance, diverting
lightning surges to the ground.

What's going on here?

http://ku5e.com/index-59869.html

The lower picture shows a device mounted atop the ground pole. Do you
recognize it?

Rees Chapman
Dahlonega, GA

1993. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 09:35:11 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <3a49a83e-f017-4db1-bcbc-013d9d130d94@z7g2000vbp.googlegroups.com>
Source record: 4144

hi just visite these sites

http://fashion1298.blogspot.com

http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

1994. SOUTH INDIAN HOT ACTRESS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 11:34:57 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <58f6a776-08dd-472e-95af-7ef9e08046b8@j37g2000prh.googlegroups.com>
Source record: 4145

HOT SOUTH ACTRESS IN DIFFERENT DRESSES
http://southactresstou.blogspot.com/2011/08/south-actress.html
NAYANTHARA HOT PHOTOS
http://southactresstou.blogspot.com/2011/08/nayanthara.html
LATEST HOT TAPSEE KISSING STILLS
http://southactresstou.blogspot.com/2011/06/tapsee.html
KAJAL AGARWAL ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
TAMANNA BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/05/tamanna.html
ANUSHKA SHETTY HOT SAREE STILLS
http://southactresstou.blogspot.com/2011/06/anushka-shetty.html
SNEHA RARE PHOTOS
http://southactresstou.blogspot.com/2011/05/sneha.html
NAMITHA HOT NAVEL SHOW
http://southactresstou.blogspot.com/2011/05/namitha.html
ILIYANA HOT WALLPAPERS
http://southactresstou.blogspot.com/2011/05/iliyana.html
PRIYAMANI LATEST SPICY PHOTOS
http://southactresstou.blogspot.com/2011/05/priyamani.html

FOR FAST UPDATES IN TELUGU FILM INDUSTRY
TAMIL ACTRESS HOT SEXY PHOTO SHOOT
http://allyouwants.blogspot.com/2011/08/tamil-actress.html
SOUTH INDIAN HOT ACTRESS PICS
http://allyouwants.blogspot.com/2011/08/hot-actress.html
DEEPIKA PADUKONE IN DUM MARO DUM MOVIE
http://allyouwants.blogspot.com/2011/08/deepika-in-dum-maro-dum.html
PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

1995. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 16:32:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dhja471r1aop2t273vf5gru6f5dhmebi4r@4ax.com>
Source record: 4146

On Fri, 12 Aug 2011 02:23:13 -0700 (PDT), DrYattz
<winwinsit@gmail.com> wrote:

>Having but recently returned to the world of shortwave radio, I'm
>trying to be better informed about technical and safety issues than I
>was as a kid. Now a homeowner with a mortgage and a homeowner's
>insurance policy, I'm worried about lightning protection. I'm
>receiving only, not transmitting. I have a ground rod just outside the
>window where the antenna wire enters, and I intend to disconnect the
>antenna outside the house when I'm not using the shortwave. But I
>want to be extra careful!
>
>So I'm considering some options. Which make sense to you seasoned
>hams? Do any of these leave me open to my homeowner's insurance being
>voided if I get a direct hit by lightning?

Hi Rees,

For the Home:

If you implement an intention to control lightning hazard, I would
suspect a jury would see it your way if you sued the insurance company
for failing to uphold their policy with you. However, they might
grieve at yielding to the insurance's arguments against you.

It wouldn't get to trial if you could demonstrate that you met the
electrical code.

The elephant in the room is: have you properly installed that ground
rod? Driving a long one deep into the ground does not qualify for a
"yes" to that question.

Ground is a very complex and mysterious thing for many, many people.
The electrical code doesn't go any great distance to inform you of its
mysteries, but it does give you solutions that work.

For the Receiver:

As for protecting your receiver from the lightning risk presented by
putting wire up into the air. All of the lighting protectors you have
links to guarantee you will see a couple of hundred volts across the
terminals. The receiver is not going to survive. The distinction
between near strike and direct strike are not really material to the
problem of frying the receiver. The difference is merely one of
personal drama.

You may encounter this potential even on a seemingly cloudless day.

Receiver solutions:

Short the potential. This may be accomplish by using the "Folded Dipole" design of horizontal antenna. A "Folded Monopole" design for a vertical antenna. Other designs that employ loop coupling would also reduce the risk. All such options offer a DC short, but with an RF impedance. This insures static electricity drain, but allows an RF voltage (the short wave signal) to develop. A large inductor across the feedline or conventional dipole feed point provides the same protection. The coil acts as a DC short, but as an RF open.

Some SWL lightning protectors employ paired diodes to reduce the voltage risk to less than 10V - trivial indeed. Unfortunately, these same diodes will conduct in the presence of large RF fields (recall my discussion about nearby AM transmitters, and "nearby" is relatively near for RF but seemingly distant if you had to walk or even drive to it). This conduction will ruin listening opportunities with a jungle of mysterious signals "that shouldn't be there." Example, hearing an FM rock station feed on the 60M band.

Having a Tuner between your radio and antenna shifts the dynamics such that the gap arrestors are useful - until you throw the bypass switch.

73's
Richard Clark, KB7QHC

1996. Re: Coax balun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 16:46:36 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j23ldn$n7s$1@dont-email.me>
Source record: 4147

"Owen Duffy" wrote in message
news:Xns9F3E8DF5BC17Bnonenowhere@88.198.244.100...

"Wayne" <mygarbagecan@verizon.net> wrote in
news:j1v5g0$9qm$1@dont-email.me:

>> I found a 50 year old pencil drawn schematic that was done by an
>> Collins Radio engineer. So....anyone ever use a coax balun as
>> described below?
>>
>> Wind a 3.5 inch diameter with 7 turns of RG-58. Space the turns such
>> that the coil is 4 inches long.
>> Connect the output of an antenna tuner to one of the balanced feedline
>> conductors. At one end of the coax coil connect the braid to the
>> antenna tuner output, and the center connector of the coax to ground.
>>
>> The other end of the coiled coax: connect the center conductor to the
>> other balanced feedline conductor. Connect the braid at that end of
>> the coil to ground.
>>
>> Comments?
>>
>
>Wayne, the device as you describe it is a form of balun (being a device
>that facilitates a transition between states of balance).
>
>Considering the ATU output terminal to have voltage V, V is applied
>directly to one feedline conductor, and if the common mode impedance of
>the coaxial choke is sufficiently high and its length sufficiently
>short, approximately -V to the other conductor... so it implements a 1:4
>impedance transformation.
>
>The problem is with the "sufficiently" qualifications above. The common
>mode impedance of a coil of coax like this has been well explored, it
>has a very high impedance over a narrow range near resonance, and
>mediocre to low away from resonance, and so not well suited to broadband
>use.
>
>Nevertheless, these types of things have appeal to those who are
>prejudiced against ferrite, or who just do things on the cheap.
>
>I hasten to add that I have used just such a coil of coax as a single
>band 1:1 current balun, but it was carefully resonated for the band in
>use, and it measured much higher common mode impedance than practical
>ferrite cored baluns.

-
Along the lines of trying to understand this, would it be possible to use
the
same circuit with the coil of coax replaced by a 1/4 wave length of open
wire line?

>
>Mentioning current baluns, you describe a balun that could not be
>categorised as an effective current balun, as if you were to ground the
>side of the load direct connected to the ATU, the whole thing fails.
>
-
Could you state this a different way, as I don't follow the grounded
output reference.

<snip>

thanks
Wayne

1997. Re: Coax balun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 20:46:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F4044D5B4341nonenowhere@88.198.244.100>
Source record: 4148

"Wayne" <mygarbagecan@verizon.net> wrote in
news:j23ldn$n7s$1@dont-email.me:

> "Owen Duffy" wrote in message
> news:Xns9F3E8DF5BC17Bnonenowhere@88.198.244.100...
>
...
>>
>>Mentioning current baluns, you describe a balun that could not be
>>categorised as an effective current balun, as if you were to ground
>>the side of the load direct connected to the ATU, the whole thing
>>fails.
>>
> -
> Could you state this a different way, as I don't follow the grounded
> output reference.

I have written some notes about baluns in antenna systems at
http://www.vk1od.net/balun/concept/cm/index.htm . The notes explain why
a current balun is most suited to 'general purpose' antenna application.

In an ideal current balun, the current in each output wire should be
independent of whether one terminal or the other is grounded.

In the case of the balun describe, grounding one or other output
terminal has a large effect on output current in each of the wires.

Proponents of some balun designs insist that they work perfectly into an
isolated load. Of course, it the load is truly isolated, ie there is not
current path to ground from the load, then they are correct, but you
don't need a balun in that case because since the load is properly
represented by a two terminal network, the current into one terminal
MUST equal the current out of the other terminal. Problem is that real
antennas aren't necessarily will represented by a two terminal network
(though we often talk as if they are).

Owen

1998. Re: My LDG Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-12 22:11:53 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <168b47d7hrtu5gb63pu3516vfjeiels70t@4ax.com>
Source record: 4149

On Thu, 11 Aug 2011 20:04:59 -0700, "Sal" <sobars@aol.com> wrote:

>Imagine my surprise when I got an email a few hours later (still Saturday)
>saying thar the switches were scheduled to go out but may not have been
>shipped. If I receceived them, I could just keep them! So apparently they
>weren't even going to invoice for them! A gift!

Nice people, nice company, and great service. However, the
justification may not be so altruistic. For small parts, the cost of
the parts may be insignificant compared to the handling. That
especially applies to returns. It would cost LDG far more than the
cost of the switches and postage to inspect the customer returned
parts, return them to stock, and deal with the paperwork. With
electrical parts, it's assumed that anything that has been in the
hands of the customer, has a good chance of being fried. Try
returning electrical parts to a hardware store or automotive supply
house, and watch the fun.

I had something similar happen with Digikey a few years ago. They
shipped me some parts, but the USPS(?) delivered the parts to the
wrong mailbox. After about 2 weeks, I was getting desperate and
called Digikey, asking for a duplicate shipment, which I indicated I
would pay for, and return the original package should it ever
magically appear. Digikey sent me the replacement parts at no cost.
Two weeks later, the original package appeared. I called Digikey
asking how to pay for the parts, or for return instructions. They
indicated that it was cheaper for them to just forget about the parts
and the added charges or to deal with the returns. So, I accidentally
received $70 in spare parts from Digikey for free. I like Digikey.

While I'm ranting on the subject, at a former employer, I once
calculated that the cost of shipping an empty box was $75. That's a
product with zero cost, but which still needs all the paperwork,
inspection, packaging, handling, billing, and overhead of any other
product. That means to ship a single transistor, the minimum the
company should have charged was $75. As a result of my calculations,
it became common for the company to provide massive quantity discounts
simply to reduce the number of orders by a given dealer. Pricing such
as:
1 xsistor $30
10 xsistors $35
100 xsistors $40
was common. There was also a trend to sell production extras by the
hand full or by the paper bag full as it was cheaper to do this than
to sort, separate, test, and re-file the random parts. Since all of

them were used in various radios sold and repaired by the dealers,
everything in the grab bag was probably useful.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1999. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 00:30:22 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <2382ae88-fe45-4a2d-b12a-d10bbe2146e3@glegroupsg2000goo.googlegroups.com>
Source record: 4150

A local job lot store was selling 100' rolls of #18 speaker wire. I bought as many as I could. I use it for not only hf antennas, but am making open wire line with discarded Bic pens as separators (there was an article in QST about this). I have had a lot of success with this.

2000. Re: Another 2M antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 00:33:04 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <7cb29a84-fb92-400e-bb8a-91ce0741044d@glegroupsg2000goo.googlegroups.com>
Source record: 3951

Even better, cut down an FM yagi, works great.

2001. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 00:52:07 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j24hrh$ds2i$1@tr22n12.aset.psu.edu>
Source record: 3952

On 8/12/2011 8:30 PM, cybrinjn@gmail.com wrote:

>I use it for not only hf antennas, but am
> making open wire line with discarded Bic pens as separators (there
> was an article in QST about this).

That has to be a lot of old pens.

- 73 de Mike N3LI -

2002. Re: FS Realistic PRO-2003 AM/FM scanner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 08:24:42 UTC
From: Not, "but yet", Snippy
Message-ID: <ajcc479sfpe9qe54raq92mbtnnsmheh41j@4ax.com>
Source record: 3953

On Wed, 10 Aug 2011 22:38:32 -0500, Henry <snip@snip.net> wrote:

>I have a Realistic PRO-2003 AM/FM scanning receiver for sale. It is in very
>good shape and comes with the manual. I'm asking $50 plus postage for it.
>You may contact me off the newsgroup.
>
>Thanks
>
>Henry

Ahh Henry, I see you have angered the AR's here. Of course, that is an easy thing to do as their standards are impossibly high. I liken them to trolls, it's best to put their comments in the proper perspective.

BTW, posting your email address "in the open" in Usenet is not a very good idea. Count yourself lucky if your address isn't harvested by the spammers. I've edited it in my response, the little good it will do.

2003. Re: FS Realistic PRO-2003 AM/FM scanner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 08:28:12 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj4cdcs.loo.nomail@xs8.xs4all.nl>
Source record: 3954

Not, but yet, Snippy <Not> wrote:
> On Wed, 10 Aug 2011 22:38:32 -0500, Henry <snip@snip.net> wrote:
>
>>I have a Realistic PRO-2003 AM/FM scanning receiver for sale. It is in very
>>good shape and comes with the manual. I'm asking $50 plus postage for it.
>>You may contact me off the newsgroup.
>>
>>Thanks
>>
>>Henry
>
> Ahh Henry, I see you have angered the AR's here. Of course, that is an easy
> thing to do as their standards are impossibly high. I liken them to trolls, it's
> best to put their comments in the proper perspective.

Probably they like the postings about hot actresses better...

2004. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 12:52:34 UTC
From: DrYattz <winwinsit@gmail.com>
Message-ID: <6ae76c4f-7f20-4400-9618-646d51aff86e@z17g2000vbp.googlegroups.com>
Source record: 3955

Thanks, Richard!

But help me understand this:

> All of the lighting protectors you have
links to guarantee you will see a couple of hundred volts across the
terminals.

http://www.universal-radio.com/catalog/protect/5611.html says

* 230V DC discharge voltage ±15%
* Max 1000V surge (1x 40 µS duration)
* Max 6000A surge (1x 40 µS duration)

Which tells me that if the incoming current exceeds 230V, it dumps up
to 1000V and 6000A to ground. Right?

Rees

2005. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 17:53:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <klcd471d66o2vu6mv11214a4insv5gnhpq@4ax.com>
Source record: 3956

On Sat, 13 Aug 2011 05:52:34 -0700 (PDT), DrYattz
<winwinsit@gmail.com> wrote:

>Which tells me that if the incoming current exceeds 230V,
... if the incoming voltage exceeds...
> it dumps up to 1000V and 6000A to ground. Right?
Sort of (voltage does not dump, so to speak).

Hi Rees,

The voltage in excess of 230V sustains the dumped current. The 230V
is still there, all the same.

That is to say that the resistance of the gap is (for all practical
purposes) infinite at voltages below 230V. For voltages applied that
exceed 230V, the resistance of the gap is 230V/2300A = 0.1 Ohm.

I chose 2300A both for ease of math, and as being representative.

Hence the gap undergoes a astronomical change in resistance in a very
short time (about a microsecond or less).

This is great fortune to the house's protection. This is poor fortune
to the radio's first transistor which resides in an environment of, at
most, 9V to 12V as a supply for gain, and 0.5V as typically the
highest voltage seen at the input. Transistors are rated to sustain
higher voltages, typically in the 10s of volts, sometimes higher.

230V to 1000V surge (as guaranteed) offer a speedy death. Of course,
of the original source being orders of magnitude greater, lightning
boosts speedy death to instantaneous (within nanoseconds).

Let's take a scenario closer to experience, and one that could easily
be likened to a near death experience at that. Open the hood of your
car, grab an unconnected spark plug lead with the end just a tenth of
an inch from the engine block (a common test of the ignition system).
You observe a spark. Dare you hold the metal clip where that spark is
jumping from it to the block? Dare you even hold the lead on its
insulation? The gap guarantees a certain voltage, and the system
guarantees a certain current (otherwise you would be forever stalled
in the driveway).

Why the hesitation in holding this lead, IF ALL the voltage and
current is dumped into the block? Experience will inform you of why
you hesitate, and why the transistor fears elevated potential.

An antenna invites access to elevated potentials from many sources
other than lightning. Even on a clear day, a dipole can accumulate

enough charge to make the spark gap sizzle. This would be extraordinary circumstances in some parts of the US, and typical in other parts. Yet and all as this may be commonplace, radios still play and life goes on. There are many other factors to consider insofar as what the input transistor has to suffer or enjoy.

73's
Richard Clark, KB7QHC

2006. 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 19:07:17 UTC
From: "Helmut Wabnig"
Message-ID: <4cid471ffdeao1c6eoeguc0fqcdu677a4v@4ax.com>
Source record: 3957

Am trying to run an optimization on my 3 element yagi which I finally
got into the editor, which was difficult enough.
The optimizer says: no variables selected
but there are none to select.
Empty list field.

Oh, how I hate this.
Praise Bill Gates for his user-friendly WINDOWS
and to hell with all amateur softwares.

Nowhere in the helps and getting started they explain that.
I do not want to learn from examples, I rather work from the
basics upwards. Would anyone learn math from a calculus
formula without knowing the arabic numbers first?

Am in a baad mood tooday.

w.

2007. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 19:23:16 UTC
From: Sal <sobars@aol.com>
Message-ID: <j26iu9$3pt$1@dont-email.me>
Source record: 3958

<cybrinjn@gmail.com> wrote in message
news:2382ae88-fe45-4a2d-b12a-d10bbe2146e3@glegroupsg2000goo.googlegroups.com...
A local job lot store was selling 100' rolls of #18 speaker wire. I bought
as many as I could. I use it for not only hf antennas, but am making open
wire line with discarded Bic pens as separators (there was an article in QST
about this). I have had a lot of success with this.

Pictures?

2008. Re: FS Realistic PRO-2003 AM/FM scanner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 20:06:32 UTC
From: Sal <sobars@aol.com>
Message-ID: <j26lf6jtm1@dont-email.me>
Source record: 3959

"Rob" <nomail@example.com> wrote
>
> Probably they like the postings about hot actresses better...

At the suggestion of a fellow NG user, I now read NGs via Eternal September*
and I do not see the hot actress posts. Text-only groups, they say, which
is fine with me. Reviews say only 800 NGs -- but they have my two.

"Sal"

* http://eternal-september.org/

2009. FS Realistic PRO-2003 AM/FM scanning receiver

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 21:04:20 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <j26ose$8ne$1@dont-email.me>
Source record: 3960

I have a Realistic PRO-2003 AM/FM scanning receiver for sale. It is in very good shape and comes with the manual. I'm asking $45 plus postage for it. You may contact me off the newsgroup.

Thanks

Henry

2010. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 21:08:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <djod47pdjtn4forb3i9dm2lc530djnc9vf@4ax.com>
Source record: 3961

On Sat, 13 Aug 2011 21:07:17 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>Am trying to run an optimization on my 3 element yagi which I finally
>got into the editor, which was difficult enough.
>The optimizer says: no variables selected
>but there are none to select.
>Empty list field.

I have no experience with 4nec2 to speak of, but what it sounds like is for an optimizer to work, you must first describe (name as a variable) what characteristic you would like to vary until the optimizer achieved an optimal result.

One guess for a three element yagi, I would suspect you would name three variables, the elements, changing each by by an incremental length (another variable) at a fixed frequency (another variable) for maximum gain (another variable) in a particular direction (another variable). Having said that little at seven variables (some fixed in value), it is quite a page full of algebra stated in a formulaic way for the optimizer (However, I fully expect that would be in a table description, not a literal formula).

Having said even that little, it lends a peek into the number of all the combinations and permutations of design this leads to. Each variable taken individually against all the possible others - and then repeated for the others in turn - leads to what mathematicians call Combinatorial Explosion (you don't have enough time to wait for the best solution). This is where constraints are added to the algebra, and you offer "close enough" as one of them to limit testing.

>Nowhere in the helps and getting started they explain that.
>I do not want to learn from examples, I rather work from the
>basics upwards. Would anyone learn math from a calculus
>formula without knowing the arabic numbers first?

Proving the validity of numbers consumed a volume of proofs back when Whitehead and Russell wrote "Principia Mathematica." It was logically dead on arrival BEFORE it was published - and yet it was the best description of simple math known. Calculus was simpler as it is principally symbol dominated.

73's
Richard Clark, KB7QHC

2011. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 21:13:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i4qd47llpjedjj101pdg3nvhtjqa0vmevj@4ax.com>
Source record: 3962

>>Would anyone learn math from a calculus
>>formula without knowing the arabic numbers first?
>
>Proving the validity of numbers consumed a volume of proofs back when
>Whitehead and Russell wrote "Principia Mathematica."

"From this proposition it will follow,
when arithmetical addition has been defined, that
1+1=2."

Volume I, 1st edition, page 379

73's
Richard Clark, KB7QHC

2012. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 21:15:22 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <v9pd479neolh7rq3odbt38te5iolfph1p8@4ax.com>
Source record: 3964

On Sat, 13 Aug 2011 21:07:17 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>Am trying to run an optimization on my 3 element yagi which I finally
>got into the editor, which was difficult enough.
>The optimizer says: no variables selected
>but there are none to select.
>Empty list field.

Are you using symbols, or did you hard code all the dimentions in ft
or meters? The optimizer won't work without using symbols.

4NEC2 forums. Where to ask such questions:
<http://fornectoo.freeforums.org>

>Oh, how I hate this.

If it were easy, it would not be fun.
One must suffer before enlightenment.

>Praise Bill Gates for his user-friendly WINDOWS
>and to hell with all amateur softwares.

If you were around in the bad old days of computing, you might be
praising Bill Gates for saving us from the evils of big computer
companies. There was a time when you had to buy pre-formatted
floppies to work in DEC PC's, and when every machine had a different
floppy disk format. Anyway, your frustration with not reading the
manual and learning to use 4NEC2 has nothing to do with Windoze or
Bill Gates.

>Nowhere in the helps and getting started they explain that.

True. Found with Google in a few minutes:

4NEC2 tutorial including optimizer and evolver:
<http://heplx3.phsx.ku.edu/~dzb/antcal/nec-files/_GetStarted.txt>
See section 5.

Video of optimizer (25 min):
<http://www.youtube.com/watch?v=kYy6Yur127A>

>I do not want to learn from examples,

Then you will fail or at least be more frustrated. Hacking your own
path throught the wilderness is far more work than following in
someone elses footsteps.

>I rather work from the
>basics upwards. Would anyone learn math from a calculus
>formula without knowing the arabic numbers first?

Most certainly possible. There are numerous tools the devices that I use with only a minimal understanding for how they work. For example, there are many drivers on the road that could not even begin to explain how a gasoline engine works. (Hint: Carnot heat engine). I suspect that such basic knowledge would not improve their driving ability.

>Am in a baad mood tooday.

Have a better day.
--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2013. omniangle oa144

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 21:15:29 UTC
From: G8PSZ <g8psz@mailshackNOSPAM.com>
Message-ID: <j26pgq$516$1@speranza.aioe.org>
Source record: 3963

Hi, I am in the UK & am interested in trying a Par Electonics Omniangle OA-144.
I have come up against the problem in that they are not available here, I know Universal Radio used to stock them , however they are listed as discontinued, they would not export to UK anyway.
I have been in touch with Par Electonics , who manufacture them & have been advised that they will not export to the UK either, they also stated that they only deal with Amateur orders about 7 days a month on a variable basis , so even if I came over, I could not guarantee to hit their ordering period.
So I have 3 questions,

1. Has anyone got a surplus OA-144 they would be willing to export to the UK

2. Would anyone be prepared to source one from Par Electonics & export it to the UK

3. Has anyone got the technical details for one, particularily what is in the matchbox, is it only a 1:1 current balun or is there other jiggery pockery going on in there, so that I could attempt a hombrew version.

Chris
G8PSZ

repost from Eham.net with no response

2014. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 22:18:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F415494ECFE6nonenowhere@88.198.244.100>
Source record: 3966

Rees,

The use of a device such as this that purports to protect the radio from a differential signal impressed across one interface could lure you into a false sense of security.

It does not eliminate the effects of elevation of the 'grounded' sided of the interface above real ground, and especially relative to other equipment. Of course, if the radio has more than one interface (eg a power lead), the problem is much greater than protecting it against a differential transient on that interface.

It is entirely possible that you do such a good job of protecting the input interface, that the receiver is destroyed by a transient from the power cord (if it uses one). You must take the bigger picture into account.

Then there is a question of the damage threshold (current / time profile) for the interface, the expected current waveshape, and the response characteristic of the device.

Whilst a high performance FET might be destroyed long before a gas tube fires, even one doped with radioactive isotope, on the other hand, the input stage of a HF receiver with the input attenuator in circuit might survive without protection.

It is a really complex problem, and the risk is that spending some small money migth delude you into a false sense of security.

I am with Richard, don't take less than competent measures for possibly worse outcomes.

Owen

2015. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 22:19:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F4154BCD8D92nonenowhere@88.198.244.100>
Source record: 3965

Rees,

The use of a device such as this that purports to protect the radio from a differential signal impressed across one interface could lure you into a false sense of security.

It does not eliminate the effects of elevation of the 'grounded' sided of the interface above real ground, and especially relative to other equipment. Of course, if the radio has more than one interface (eg a power lead), the problem is much greater than protecting it against a differential transient on that interface.

It is entirely possible that you do such a good job of protecting the input interface, that the receiver is destroyed by a transient from the power cord (if it uses one). You must take the bigger picture into account.

Then there is a question of the damage threshold (current / time profile) for the interface, the expected current waveshape, and the response characteristic of the device.

Whilst a high performance FET might be destroyed long before a gas tube fires, even one doped with radioactive isotope, on the other hand, the input stage of a HF receiver with the input attenuator in circuit might survive without protection.

It is a really complex problem, and the risk is that spending some small money migth delude you into a false sense of security.

I am with Richard, don't take less than competent measures for possibly worse outcomes.

Owen

2016. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 22:42:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F4158A2571B4nonenowhere@88.198.244.100>
Source record: 3967

Rees,

The use of a device such as this that purports to protect the radio from a differential signal impressed across one interface could lure you into a false sense of security.

It does not eliminate the effects of elevation of the 'grounded' sided of the interface above real ground, and especially relative to other equipment. Of course, if the radio has more than one interface (eg a power lead), the problem is much greater than protecting it against a differential transient on that interface.

It is entirely possible that you do such a good job of protecting the input interface, that the receiver is destroyed by a transient from the power cord (if it uses one). You must take the bigger picture into account.

Then there is a question of the damage threshold (current / time profile) for the interface, the expected current waveshape, and the response characteristic of the device.

Whilst a high performance FET might be destroyed long before a gas tube fires, even one doped with radioactive isotope, on the other hand, the input stage of a HF receiver with the input attenuator in circuit might survive without protection.

It is a really complex problem, and the risk is that spending some small money migth delude you into a false sense of security.

I am with Richard, don't take less than competent measures for possibly worse outcomes.

Owen

2017. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-13 22:59:40 UTC
From: "Helmut Wabnig"
Message-ID: <kfvd47hfsuaj7q7oir6orl0fv6ove54jlb@4ax.com>
Source record: 3968

On Sat, 13 Aug 2011 14:15:22 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>.........

I am making progress, though.
Got the optimizer running and edited a few of the example files
to have the variables selection available.

Works.

Now I watch the optimizer quickly de-optimizing the antennas
until they radiate into the wrong direction or get stuck in a
circular radiation diagram. In one case the optimizer bent
and rotated the dipoles around, I bet no specialist can do what I can.

Real fun, that is :-)

>
>Video of optimizer (25 min):
><http://www.youtube.com/watch?v=kYy6Yur127A>
>

Yeah, thats good. Sitting back and watch.
Thanks for the idea of watching the Youtube demos.
Better than endless trial-and-error.
My goal is to find out what makes a direction finding antenna
different from a gain optimized antenna.
F/B ratio is all that matters for ARDF, for example.
Gain is secondary and side-lobes should be absent.
I must get that NEC working by all means.

Regards,
w.

2018. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-14 05:35:24 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <o2me47pldpgfrkvc5v5obdibv3kps7ivg8@4ax.com>
Source record: 3969

On Sun, 14 Aug 2011 00:59:40 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>My goal is to find out what makes a direction finding antenna
>different from a gain optimized antenna.

That's easy (having helped design 2 commercial direction finders). Low side lobes and good front to back. Gain is well down the list of requirements. Side lobes will drive any direction finding scheme towards insane results by generating false peaks in the direction. The ability to recognize these is a function of how much time you want to put into the software. Reflections will also cause problems, but more so with side lobes.

To prove a point, I once threw together a rotating antenna direction finder using a low gain directional antenna (but with low side lobes, and no rear lobe). Due to the low gain, the -3dB beam width was a rather wide 60 degrees. I rotated the antenna slowly, and the computah made lots of signal level measurements. The result was that I could determine the direction within about +/-2degrees. Of course a higher gain antenna would resolve the signal direction much better, and could probably be rotated faster, but all would be much larger. However, there's a problem. High gain antennas tend to have boresight errors. Small asymmetries, such as mountings, gamma matches, and baluns, will have an effect.

>F/B ratio is all that matters for ARDF, for example.

F/B could be considered a side lobe at 180 degrees. Like other side lobes, it needs to be minimized.

>Gain is secondary and side-lobes should be absent.

Absent is difficult. Minimized might be a better goal. With a log amp driving the signal level measuring device, three orders of magnitude should be sufficient.

>I must get that NEC working by all means.

Slow down. Such things take time.

What manner of direction finder are you building and what frequency? Doppler? Rotating antenna? Phasing? Time difference of arrival? Homer? Adcock? Ouija board?

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com

Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2019. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-14 20:02:32 UTC
From: "Helmut Wabnig"
Message-ID: <kn9g47hi749v7bjfsma11j4j4cpsd1tiv5@4ax.com>
Source record: 3970

On Sat, 13 Aug 2011 14:15:22 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>
>>Am in a baad mood tooday.
>
>Have a better day.

Sorry, bad mood again.
Watched the tutorials on Youtube.
Remarkably he starts loading an antenna and then deleting the elements
to get a blank builder screen.
The 4nec2 cannot start with a "new" file, it must load something from
before. Only then I may select NEW. This is a bug.

I copied the moves from the tutorial on my NEW antenna,
and I cannot place a source on the dipole. Does not work.
No error message, nothing.
So I will load some old antenna, delete everything and try again
as shown in the tutorial.

Within 5 minutes of work I have a list of 5 errors,
program errors, repectively bugs, mis-leading the user.
Can't type as fast as the bugs occur, I just described only one.
Of course I have no right to complain because it's free.
Yeah.

w.

2020. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-14 20:24:29 UTC
From: "Helmut Wabnig"
Message-ID: <6bbg4799moalksfof5jthshmqevpo3gdo1@4ax.com>
Source record: 3971

On Sun, 14 Aug 2011 22:02:32 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>On Sat, 13 Aug 2011 14:15:22 -0700, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>
>
>>
>>>Am in a baad mood tooday.
>>
>>Have a better day.
>
>Sorry, bad mood again.
>Watched the tutorials on Youtube.
>Remarkably he starts loading an antenna and then deleting the elements
>to get a blank builder screen.
>The 4nec2 cannot start with a "new" file, it must load something from
>before. Only then I may select NEW. This is a bug.
>
>I copied the moves from the tutorial on my NEW antenna,
>and I cannot place a source on the dipole. Does not work.
>No error message, nothing.
>So I will load some old antenna, delete everything and try again
>as shown in the tutorial.
>
>Within 5 minutes of work I have a list of 5 errors,
>program errors, repectively bugs, mis-leading the user.
>Can't type as fast as the bugs occur, I just described only one.
>Of course I have no right to complain because it's free.
>Yeah.
>
>w.
Now I watched the tutorial again and again
http://www.youtube.com/watch?v=3AqMq0J3WBc
and after 14:11 he adds a voltage source.
He does a horizontal movement with the cursor on the dipole wire
and only then the 4nec2 will place the voltage source on the dipole.
He does not mention that or explain that move.

This stupid bug -and a program bug that is, and a large one-
this stupid bug has cost me 2 hours of struggling.

Ready for the next bug.

w.

2021. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-14 21:27:33 UTC
From: "Helmut Wabnig"
Message-ID: <3afg47prrp0bsqi7kgik2l1qsprb90n05d@4ax.com>
Source record: 3972

On Sun, 14 Aug 2011 22:24:29 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:
>.........
>This stupid bug -and a program bug that is, and a large one-
>this stupid bug has cost me 2 hours of struggling.
>
>Ready for the next bug.
>

Want one?
4nec2 from time to time destroys it's saved antenna files.
Just lost another 2 hours of work.

Now I understand why it's free.
Can't charge money for bugs.

w.

2022. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 01:21:32 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <917008b5-c07f-46f2-880f-61f681884278@glegroupsg2000goo.googlegroups.com>
Source record: 3973

I'll see if I can get pix on a web site I'm working on. You use cable ties doubled up inside the barrels to hold the wires. The Write Bros. pen barrels are about 5" not including the swage, and if you cut it in half, 2.5" should be ok for up to 10M.

2023. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 01:22:51 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <f87bd187-192c-4300-a72d-d6fd12c3317a@glegroupsg2000goo.googlegroups.com>
Source record: 3974

It is a lot of pens. My recently deceased aunt was housebound, and did a lot of puzzles, crosswords and such. She also did a lot of letter writing. She had saved all of her pens for me, and when I took over her house, I found several packages of Bic pens. With #18 wire you can get two spacers from each pen. Not to waste anything, you can remove the ink cartridges with pliers, and keep one or two barrels for writing.

2024. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 02:29:32 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <j60h47ljrj5ealkch1suniijf6q7160fuo@4ax.com>
Source record: 3975

On Sun, 14 Aug 2011 22:02:32 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>On Sat, 13 Aug 2011 14:15:22 -0700, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>Sorry, bad mood again.

Like I said. One must suffer before enlightenment.

>Watched the tutorials on Youtube.
>Remarkably he starts loading an antenna and then deleting the elements
>to get a blank builder screen.
>The 4nec2 cannot start with a "new" file, it must load something from
>before. Only then I may select NEW. This is a bug.

Well, there is no "new" button or choice under "File". Ask Arie Voors
for the feature. It seems easy enough to add to the program.

>I copied the moves from the tutorial on my NEW antenna,
>and I cannot place a source on the dipole. Does not work.
>No error message, nothing.
>So I will load some old antenna, delete everything and try again
>as shown in the tutorial.

Well, I've never had that problem because I don't try to "paint" the
antenna using the isometric or 3D views. It's not accurate enough
unless you snap to a grid. I create the antenna either externally,
with a text editor, or using the spreadsheet style editor. I import
that into 4NEC2 and make any necessary changes (and fix any screwups).
For geometric shapes, I use the external shape generator, which will
do surfaces, parabolic dishes, etc. 4NEC2 is not a drawing program.

>Within 5 minutes of work I have a list of 5 errors,
>program errors, repectively bugs, mis-leading the user.

Impressive. You might want to search the 4NEC2 forums to see if any
of them have been previously reported.
<http://fornectoo.freeforums.org>
Note that there is a section specifically for requesting new features.

>Can't type as fast as the bugs occur, I just described only one.
>Of course I have no right to complain because it's free.

In my limited experience, people complain more about free software
than paid software. That's usually because the author(s) encourage
feedback in order to improve their product.

>Yeah.

Thanks for ignoring my questions.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2025. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 02:46:34 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <v41h47tgl9gjrghr2bk6o05ff4jnhh1klv@4ax.com>
Source record: 3976

On Sun, 14 Aug 2011 23:27:33 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>Want one?

Not really, since I can't do anything to fix the alleged problem.

>4nec2 from time to time destroys it's saved antenna files.
>Just lost another 2 hours of work.

Nobody does backups until after they have lost data. I've been using
4NEC2 for at least 7 years and have never lost a file. Well, I have
accidentally overwritten a file, but that was my fault. When I tinker
with antennas, I save multiple versions of the same design with the
version number appended as in file001.nec. This way, if I make a
horrible mistake, I can go back to a previous version and try again.

>Now I understand why it's free.
>Can't charge money for bugs.

Well, that why we have alternatives to 4NEC2 and why I don't charge
for my free advice:
<http://www.smeter.net/antennas/mmana.php>
<http://www.eznec.com>
<http://www.nittany-scientific.com>
<http://www.hamradiosecrets.com/antenna-design-software.html>
<http://www.si-list.net/swindex.html> (old but still useful)

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2026. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 04:50:41 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <gA12q.36723$g12.14942@newsfe20.iad>
Source record: 3977

I thought the Write Bros built airplanes, not pens!

Irv VE6BP

<cybrinjn@gmail.com> wrote in message
news:917008b5-c07f-46f2-880f-61f681884278@glegroupsg2000goo.googlegroups.com...
> I'll see if I can get pix on a web site I'm working on. You use cable
> ties doubled up inside the barrels to hold the wires. The Write Bros. pen
> barrels are about 5" not including the swage, and if you cut it in half,
> 2.5" should be ok for up to 10M.
>

2027. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 06:53:35 UTC
From: "Helmut Wabnig"
Message-ID: <prdh475739fg5g2j42gbgvsstnnl8v8tfg@4ax.com>
Source record: 3978

On Sun, 14 Aug 2011 19:46:34 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>On Sun, 14 Aug 2011 23:27:33 +0200, Helmut Wabnig <hwabnig@.- ---
>-.dotat> wrote:
>
>>Want one?
>
>Not really, since I can't do anything to fix the alleged problem.
>
>>4nec2 from time to time destroys it's saved antenna files.
>>Just lost another 2 hours of work.
>
>Nobody does backups until after they have lost data. I've been using
>4NEC2 for at least 7 years and have never lost a file. Well, I have
>accidentally overwritten a file, but that was my fault. When I tinker
>with antennas, I save multiple versions of the same design with the
>version number appended as in file001.nec. This way, if I make a
>horrible mistake, I can go back to a previous version and try again.
>
>>Now I understand why it's free.
>>Can't charge money for bugs.
>
>Well, that why we have alternatives to 4NEC2 and why I don't charge
>for my free advice:
><http://www.smeter.net/antennas/mmana.php>
><http://www.eznec.com>
><http://www.nittany-scientific.com>
><http://www.hamradiosecrets.com/antenna-design-software.html>
><http://www.si-list.net/swindex.html> (old but still useful)

##########"Backup, you say it". ##########

When optimizing for F/B also 4nec2 results in a too short driven
element, same as YAGICAD, they obviously use the same formula,
(a long two-liner) from literature.
I actually built antennas following that prescription,
and they do not work without additional corrections,
e.g. a very long hair-pin match.

Imagine a 3 element 2 meter yagi,

```
| | |
| | |
| | |
| |
|
```

Something is wrong here with the capacitive driven element.
Now I am having a hard time, because I want to find out in
what differs a gain optimized vs a F/B optimized antenna
and it is questionable whether that can be done with software.
Have not tried other programs yet.

http://imageshack.us/photo/my-images/837/snc14096a.jpg/

The Front to Back ratio is very frequency dependent
http://imageshack.us/photo/my-images/220/fbratio.jpg/
(Without the hair pin match)
http://img5.imageshack.us/img5/3479/snc14112hairpin.jpg

Therefore I put the driver on a slider
http://img841.imageshack.us/img841/8530/snc14097small.jpg
which allows to adjust the working frequency of the antenna
over a >10 MHz range on 2 meters. Adjust for minimum reception
from the back and the antenna is optimized for that frequency.

Now I want to collect a list of recipes which allow to build the
antenna without having to tweak it on the antenna analyzer.

A similar design once was offered by DIAMOND MAY1000
http://www.rfparts.com/diamond/MAY1000.html
Look at the frequency chart
http://www.rfparts.com/diamond/pdfdocs/MAY1000%20Adj%20Chart.pdf
With that antenna one could adjust the element lengths *and*
the distance between the elements, which is crucial for the F/B ratio.

A Yagi with fixed element positions can only be used for 1 frequency
(within a very small range) and therefore may be impractical
in many situations. The CEBIK tape measure antenna with their
water-pipe construction could be easily modified with a moveable
center element.
http://www.g6hoq.com/documents/2m%20tape%20measure%20yagi%20instructions.pdf
Above line as shortlink: http://tinyurl.com/3m5p5nq

w.

2028. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 08:59:00 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <j2an4m$p8g$1@speranza.aioe.org>
Source record: 3979

Helmut,

your ranting and raving about 4Nec2 seem entirely unfair, the 'bugs' that you complain do not seem to be bugs at all, just the way the program works; which is not to your liking.

Placing sources requires that you click whilst away from the wire and then drag the source onto the wire. This is not a bug, just the way that the author chose to do it.

In many years of using 4Nec2 I have never had it loose a file, so I can only assume that there is some sort of problem at your end.

Yes, it would be nice to have a 'New' button, but again not a bug, just the way that the program works. If this minor inconvenience pains you that much ask the author to add one.

Regarding optimization the phrase 'garbage in garbage out' springs to mind. Optimizers are just that, optimizers, they WILL NOT take a rubbish design and turn it into the perfect antenna.

Optimizers rely on finding minima (or maxima) in the set of parameters that you supply, so unless you are close to a good design it is very likely that they will 'get stuck' in a local minima and then home in on something other than an optimum design. So you have to have a good design to start with and also not try to optimize to a set of unrealistic goals. This applies TO ALL optimizers not just 4Nec2.

Regards
Jeff

2029. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 09:37:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F42C796CB35Fnonenowhere@88.198.244.100>
Source record: 3980

So, the software is not perfect... but some of your complaints are are result of your own ignorance of modelling, NEC and 4NEC2.

Helmut, your vitrolic rant doesn't strike a chord with me.

Right now, Arie has some personal issues that we would all rather not have in our lives, and yet he is finding time for some problem resolution.

Arie, I dips me lid (that means "hats off" in Oz).

Owen

2030. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 12:50:48 UTC
From: "Helmut Wabnig"
Message-ID: <535i47pj7r3ifvq1nid7bf8tp6hgfssc0l@4ax.com>
Source record: 3981

On Mon, 15 Aug 2011 09:59:00 +0100, Jeff <jeff@jsystems.com> wrote:

>Placing sources requires that you click whilst away from the wire and
>then drag the source onto the wire. This is not a bug, just the way that
>the author chose to do it.

Show me the place in the manual or help where that is described.
Normally we do drag and drop, but here we must drag, drop & move.
Made me crazy, but no longer now since I know it,
and I will keep it a secret and not tell anyone.

>
>In many years of using 4Nec2 I have never had it loose a file, so I can
>only assume that there is some sort of problem at your end.
>
Of course, it's free, so it must be my fault.
From the little programming I did, I know it's 99% user interface
and 1% programming the more interesting part.

>Yes, it would be nice to have a 'New' button, but again not a bug, just
>the way that the program works. If this minor inconvenience pains you
>that much ask the author to add one.
>

No, no, it's free.

>Regarding optimization the phrase 'garbage in garbage out' springs to
>mind. Optimizers are just that, optimizers, they WILL NOT take a rubbish
>design and turn it into the perfect antenna.
>
>Optimizers rely on finding minima (or maxima) in the set of parameters
>that you supply, so unless you are close to a good design it is very
>likely that they will 'get stuck' in a local minima and then home in on
>something other than an optimum design. So you have to have a good
>design to start with and also not try to optimize to a set of
>unrealistic goals. This applies TO ALL optimizers not just 4Nec2.
>
>Regards
>Jeff

You are right, that's how it is.

w.

2031. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 13:20:28 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <j2b6et$s4o$1@speranza.aioe.org>
Source record: 3982

On 15/08/2011 13:50, Helmut Wabnig wrote:
> On Mon, 15 Aug 2011 09:59:00 +0100, Jeff<jeff@jsystems.com> wrote:
>
>
>> Placing sources requires that you click whilst away from the wire and
>> then drag the source onto the wire. This is not a bug, just the way that
>> the author chose to do it.
>
>
> Show me the place in the manual or help where that is described.
> Normally we do drag and drop, but here we must .
> Made me crazy, but no longer now since I know it,
> and I will keep it a secret and not tell anyone.

Firstly it is not 'drag, drop& move'; it is click, drag & drop! Try
reading the Help a little more closely, you will find that it says:

"The next thing to do is add a voltage-source. While still in Add-mode,
click the 'Source button' (right of the 'Wire button'). Next click and
hold down your left mouse-button somewhere in the picture-box. At the
current mouse-pointer position a new source-object is displayed. Drag
the source-object to the middle of the second wire, just between the two
lower wires-ends of the feedline and release the mouse-button. When
properly positioned a new source is now added."

>>
>> In many years of using 4Nec2 I have never had it loose a file, so I can
>> only assume that there is some sort of problem at your end.
>>
> Of course, it's free, so it must be my fault.
> From the little programming I did, I know it's 99% user interface
> and 1% programming the more interesting part.

No one else reports this problem so draw your own conclusions!!! The
fact that it is free has no bearing on it.

>
>> Yes, it would be nice to have a 'New' button, but again not a bug, just
>> the way that the program works. If this minor inconvenience pains you
>> that much ask the author to add one.
>>
>
> No, no, it's free.

Have you contacted the author and asked for this feature? No? I thought
not. Again the fact that it is free has no bearing.

>
>> Regarding optimization the phrase 'garbage in garbage out' springs to
>> mind. Optimizers are just that, optimizers, they WILL NOT take a rubbish
>> design and turn it into the perfect antenna.
>>
>> Optimizers rely on finding minima (or maxima) in the set of parameters
>> that you supply, so unless you are close to a good design it is very
>> likely that they will 'get stuck' in a local minima and then home in on
>> something other than an optimum design. So you have to have a good
>> design to start with and also not try to optimize to a set of
>> unrealistic goals. This applies TO ALL optimizers not just 4Nec2.
>>
>> Regards
>> Jeff
>
> You are right, that's how it is.

Yes that is the way it is with ALL optimizers, not just 4nec2; gigo.

No one is forcing you to use 4nec2, however, no one else seems to be
having the problems that you claim are 'bugs', perhaps you should have
more patience, read the help more closely, and not be so quick to criticize.

Jeff

2032. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 13:30:29 UTC
From: "Helmut Wabnig"
Message-ID: <hp7i47ljk1gpoheh8fkcm970lqe13iqh5g@4ax.com>
Source record: 3983

On Mon, 15 Aug 2011 14:20:28 +0100, Jeff <jeff@jsystems.com> wrote:

>On 15/08/2011 13:50, Helmut Wabnig wrote:
>> On Mon, 15 Aug 2011 09:59:00 +0100, Jeff<jeff@jsystems.com> wrote:
>>
>>
>>> Placing sources requires that you click whilst away from the wire and
>>> then drag the source onto the wire. This is not a bug, just the way that
>>> the author chose to do it.
>>
>>
>> Show me the place in the manual or help where that is described.
>> Normally we do drag and drop, but here we must .
>> Made me crazy, but no longer now since I know it,
>> and I will keep it a secret and not tell anyone.
>
>
>Firstly it is not 'drag, drop& move'; it is click, drag & drop! Try
>reading the Help a little more closely, you will find that it says:
>
>"The next thing to do is add a voltage-source. While still in Add-mode,
>click the 'Source button' (right of the 'Wire button'). Next click and
>hold down your left mouse-button somewhere in the picture-box. At the
>current mouse-pointer position a new source-object is displayed. Drag
>the source-object to the middle of the second wire, just between the two
>lower wires-ends of the feedline and release the mouse-button. When
>properly positioned a new source is now added."
>
It does not work as described, period.

w.

2033. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 14:07:53 UTC
From: "Helmut Wabnig"
Message-ID: <lu9i47tsa412h8jp87blph8ugdkelke9uf@4ax.com>
Source record: 3984

On Mon, 15 Aug 2011 14:20:28 +0100, Jeff <jeff@jsystems.com> wrote:

>On 15/08/2011 13:50, Helmut Wabnig wrote:
>> On Mon, 15 Aug 2011 09:59:00 +0100, Jeff<jeff@jsystems.com> wrote:
>>
>>
>>> Placing sources requires that you click whilst away from the wire and
>>> then drag the source onto the wire. This is not a bug, just the way that
>>> the author chose to do it.
>>
>>
>> Show me the place in the manual or help where that is described.
>> Normally we do drag and drop, but here we must .
>> Made me crazy, but no longer now since I know it,
>> and I will keep it a secret and not tell anyone.
>
>
>Firstly it is not 'drag, drop& move'; it is click, drag & drop! Try
>reading the Help a little more closely, you will find that it says:
>
>"The next thing to do is add a voltage-source. While still in Add-mode,
>click the 'Source button' (right of the 'Wire button'). Next click and
>hold down your left mouse-button somewhere in the picture-box. At the
>current mouse-pointer position a new source-object is displayed. Drag
>the source-object to the middle of the second wire, just between the two
>lower wires-ends of the feedline and release the mouse-button. When
>properly positioned a new source is now added."
>
It does not work as described, when inserting a source on a dipole
wire in the center segment, one of the first things to do in Example1.

w.

2034. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 17:30:05 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <j2bl2uvbt1@speranza.aioe.org>
Source record: 3985

>>
>> Firstly it is not 'drag, drop& move'; it is click, drag& drop! Try
>> reading the Help a little more closely, you will find that it says:
>>
>> "The next thing to do is add a voltage-source. While still in Add-mode,
>> click the 'Source button' (right of the 'Wire button'). Next click and
>> hold down your left mouse-button somewhere in the picture-box. At the
>> current mouse-pointer position a new source-object is displayed. Drag
>> the source-object to the middle of the second wire, just between the two
>> lower wires-ends of the feedline and release the mouse-button. When
>> properly positioned a new source is now added."
>>
> It does not work as described, when inserting a source on a dipole
> wire in the center segment, one of the first things to do in Example1.
>
>
> w.

Utter Rubbish!!! It works EXACTLY as described!!!

Hold down the left mouse button, drag the source to the segment where
you wish it to be, release the button - exactly as described!!!

Jeff

2035. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 20:58:13 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <dm1j4794hgquddu685qr4pfh3ah4odi95i@4ax.com>
Source record: 3986

On Sun, 14 Aug 2011 22:50:41 -0600, "Irv Finkleman" <finkirv@shaw.ca>
wrote:

>I thought the Write Bros built airplanes, not pens!
>Irv VE6BP

Nope. They write screenplay software:
<http://www.write-bros.com>

Maybe he meant the Rite Bothers, who run a charter airplane service:
<http://www.ritebros.com>

Or, perhaps the Right Brothers, that do right wing conserative music
out of Nashville.
<http://www.therightbrothers.com>

In your heart, you know he's [wright|right|rite|write].

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2036. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 21:56:46 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2c4muhdq1@news.jpl.nasa.gov>
Source record: 3988

On 8/13/2011 12:07 PM, Helmut Wabnig wrote:
> Am trying to run an optimization on my 3 element yagi which I finally
> got into the editor, which was difficult enough.
> The optimizer says: no variables selected
> but there are none to select.
> Empty list field.
>
> Oh, how I hate this.
> Praise Bill Gates for his user-friendly WINDOWS
> and to hell with all amateur softwares.
>
> Nowhere in the helps and getting started they explain that.
> I do not want to learn from examples, I rather work from the
> basics upwards. Would anyone learn math from a calculus
> formula without knowing the arabic numbers first?
>
> Am in a baad mood tooday.
>
>
> w.

Does your model have symbols defined (using the 4nec2 specific SY card?)
That's what it uses to populate the list.

Which editor are you using? If you already have a NEC input deck, it's
easiest to use the non-graphical editor.

What are you optimizing for.

Sure, you can whine about wanting better help files, but face it, Arie
is providing the product for free. If you are already proficient in
NEC, the help provided is fairly useful. If you are learning if from
scratch, yep, it's a pain.

2037. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 21:58:57 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2c4r1hdq2@news.jpl.nasa.gov>
Source record: 3987

On 8/13/2011 3:59 PM, Helmut Wabnig wrote:
> On Sat, 13 Aug 2011 14:15:22 -0700, Jeff Liebermann<jeffl@cruzio.com>
> wrote:
>
>> .....
>
> I am making progress, though.
> Got the optimizer running and edited a few of the example files
> to have the variables selection available.
>
> Works.
>
> Now I watch the optimizer quickly de-optimizing the antennas
> until they radiate into the wrong direction or get stuck in a
> circular radiation diagram. In one case the optimizer bent
> and rotated the dipoles around, I bet no specialist can do what I can.
>
> Real fun, that is :-)
>
>>
>> Video of optimizer (25 min):
>> <http://www.youtube.com/watch?v=kYy6Yur127A>
>>
>
> Yeah, thats good. Sitting back and watch.
> Thanks for the idea of watching the Youtube demos.
> Better than endless trial-and-error.
> My goal is to find out what makes a direction finding antenna
> different from a gain optimized antenna.
> F/B ratio is all that matters for ARDF, for example.
> Gain is secondary and side-lobes should be absent.
> I must get that NEC working by all means.
>

Then when you set up your optimization criteria in 4nec2, weight the F/B or F/R with 100% and the others with zero (although sometimes, you may want to weight forward gain at 10%, just to keep it from driving to zero gain)

2038. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 22:09:52 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2c5fghps1@news.jpl.nasa.gov>
Source record: 3990

On 8/14/2011 11:53 PM, Helmut Wabnig wrote:
>
>
> When optimizing for F/B also 4nec2 results in a too short driven
> element, same as YAGICAD, they obviously use the same formula,
> (a long two-liner) from literature.

Unlikely...
4nec2 is just driving the finite element NEC engine underneath. YagiCad
uses analytical approximations.

NEC is *very* sensitive to segmentation, spacing, and wire diameters,
etc. particularly when close together or angled. The NEC4 engine is
quite a bit better, but you're probably using the default free NEC2 engine.

To effectively use this kind of thing, you need to be pretty aware of
the limitations and peculiarities of the underlying FEM codes. While I
wouldn't expect someone to have read the theory manual for NEC2, you
might want to check out some of L.B.Cebik's writeups on using MoM codes,
or the stuff in the ARRL Antenna Compendium from time to time.

> I actually built antennas following that prescription,
> and they do not work without additional corrections,
> e.g. a very long hair-pin match.
>
>
>
> Imagine a 3 element 2 meter yagi,
>
> |
> | |
> | | |
> | | |
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> | | |
> | |
> |
>
> Something is wrong here with the capacitive driven element.

Depends on what you were optimizing for.
If all you said was "drive F/B to maximum", then it won't try to get you
a decent match, all it will do is drive to having element currents that
optimize for F/B, which will almost certainly have an evil feedpoint
impedance.

> Now I am having a hard time, because I want to find out in
> what differs a gain optimized vs a F/B optimized antenna
> and it is questionable whether that can be done with software.
> Have not tried other programs yet.

What I do is not try to use the optimizer to design the whole antenna including matching network. I optimize the basic element design first (without matching network). Then I add the matching network, hold the element spacing and length constant, and let that optimize. Then I go back and allow element length to change, but hold matching network dimensions/component values (I tend to use lumped element matching networks) fixed.

It's an iterative thing because it's tough to specify an appropriate optimization cost function with a simple interface. What you really want is something like "optimize F/B, but keep the feedpoint impedance >20 ohms and <100 reactive ohms"

>
> A Yagi with fixed element positions can only be used for 1 frequency
> (within a very small range) and therefore may be impractical
> in many situations. The CEBIK tape measure antenna with their
> water-pipe construction could be easily modified with a moveable
> center element.

this is just not true (otherwise the SteppIR wouldn't work.. it has fixed element spacing and works over a huge (>1 octave) frequency range) with fairly good performance.

One can also do similar with fixed spacing, and fixed length, and reactive loading of the elements at the centers.

2039. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 22:20:27 UTC
From: Sal <sobars@aol.com>
Message-ID: <j2c63p$j7d$1@dont-email.me>
Source record: 3989

<cybrinjn@gmail.com> wrote in message
news:917008b5-c07f-46f2-880f-61f681884278@glegroupsg2000goo.googlegroups.com...
> I'll see if I can get pix on a web site I'm working on. You use cable
> ties doubled up inside the barrels to hold the wires. The Write Bros. pen
> barrels are about 5" not including the swage, and if you cut it in half,
> 2.5" should be ok for up to 10M.

Will watch for info. Clever beyond anything I ever did!

2040. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 22:31:38 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2c6oa$i4v$1@news.jpl.nasa.gov>
Source record: 3991

On 8/12/2011 2:23 AM, DrYattz wrote:
> Having but recently returned to the world of shortwave radio, I'm
> trying to be better informed about technical and safety issues than I
> was as a kid. Now a homeowner with a mortgage and a homeowner's
> insurance policy, I'm worried about lightning protection. I'm
> receiving only, not transmitting. I have a ground rod just outside the
> window where the antenna wire enters, and I intend to disconnect the
> antenna outside the house when I'm not using the shortwave. But I
> want to be extra careful!

Separate two issues:
1) having the house not burn down
2) protecting the front end of your radio

#1 is fairly straightforward and what your homeowner's insurance company might care about

#2 is pretty darn tricky, but the homeowner's insurance company doesn't care much about your radio.

As others will point out, a single rod pounded in does not generally a code compliant ground make. And a single rod pounded in might actually make things worse, as far as damage and destruction goes.

The goal is to get the lightning energy to go "somewhere else" than in your house. A secondary goal, since sending ALL lightning energy somewhere else is very difficult, is to not have the remainder destroy the radio.

First off.. almost all amateur antenna installations do not fully comply with the electrical code (and before I get flamed.. let me ask all you would be commenters: do you have a listed antenna discharge unit? are all your conductors no less than AWG 14 hard drawn copper or copper clad steel? Is your antenna lead in entirely contained within a metallic raceway? I thought not.. pace...we're going for practical here)

That said, I think that a "good faith" effort to do the right thing will help, and besides, unless you're in a disaster area, insurance companies generally don't work to try and deny claims on flimsy basis. there's the whole "reasonable person" aspect and your looking for decent information is a good start of what a "reasonable person" would do.

You might take a look at the safety chapter in the ARRL handbook as a start (the library has it, almost certainly, or you can find someone who will loan it to you).

A antenna discharge unit (open spark gap with a spacing of a few tenths of an inch) to a ground rod or rods will go a long way towards keeping most of the lightning current out of the house. It takes several kV to jump the gap, but once the gap is conducting, the voltage drops to a few tens of volts, and that's nothing in the overall scheme of things where there are many kilovolts along your wire.

The real problem comes in with the fact that no matter how good a job you do in connecting that gap to the rod, there's going to some distance, and some voltage drop between the voltage at that arrestor (during the strike) and "the rest of the house ground potential". If your radio is sitting in the middle, it WILL conduct, and it WILL be exciting.

The idea, then, is to make sure that no big voltages occur across two terminals of the radio (that could either be antenna and ground terminal, e.g. coax, or antenna and power supply).

The big deal is the AC power.. your wall socket is close to ground potential (in terms of kilovolts, anyway). So if your radio's antenna is at 2 or 3 kV, and the power cord is at ground, your radio will fry.

Run the radio off batteries? As long as you're not touching it, and it's not hooked up with an audio cable to your PC or something, then it just floats up to a few kV, and then, floats back down.

Most UL listed wall wart power supplies these days can hold off several thousand volts between inside and outside (that's the so called "hi pot" test rating).

Beyond that, it starts getting into gas tubes, and similar stuff to try and protect the innards of the radio. How much does your radio cost? Do you want to spend hundreds of dollars on surge suppressors to protect a $200 radio?

it's also remarkably hard to build a very sensitive receiver that will tolerate even a few tens of volts on the input.

2041. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-15 23:46:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F43637FE79CDnonenowhere@88.198.244.100>
Source record: 3992

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:j2c6oa$i4v$1@news.jpl.nasa.gov:

...
> Most UL listed wall wart power supplies these days can hold off
> several thousand volts between inside and outside (that's the so
> called "hi pot" test rating).

That may be so at DC or 60 Hz, but it may be relatively transparent to the spectral components of lightning discharge current, components that may me significant to 100MHz or more.

There is no simple broadband equivalent circuit of the power transformer, but at 100MHz, it might look more like some series capacitance of the order of 100pF from primary to secondary for common mode excitation... and that may well allow damaging currents to flow (without insulation breakdown or permanent damage to the transformer), whether driven from the coax shield, the power line, or more likely, both.

Just another factor that makes design of bullet proof solutions so challenging.

Owen

2042. God The Father 10-23-91

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 04:20:23 UTC
From: norttene@yahoo.com
Message-ID: <0d22e5c9-0ddf-47b1-bae2-bdbc03812897@z17g2000vbp.googlegroups.com>
Source record: 3993

God The Father says,
" If you go some place tonight and you say, 'Do
you know Who spoke at a meeting I was at?' and you
told someone in a loving way, they might even laugh.
But that's what they did to Moses. He said, 'I have a
Message, you must listen.' 'Who gave the Message?'
'The Almighty One.' 'Who are you, Moses, to have
Him speak? Who are you, for Him to use in such a
grand manner?' And I say to you tonight, Moses'
answer is and was the same as hers."

REVELATION DELIVERED THROUGH FRANCES M. KLUG
ON OCTOBER 23,1991

GOD THE FATHER

" In the time of Moses, when Moses stood
amongst people such as are present here tonight, he too
did not want to look or feel different in any form, in
any way, but when I took him to the mountain and I
held him there, he was in complete obedience to My
Will and My Way, My Words, My Direction, and What
I wanted delivered for a long time to come.

I gave him very little rest. I instilled in him a
great degree of knowledge, a great degree of wisdom
and a great degree of understanding, and an ability to
pass this on verbally, physically, mentally, emotionally
and spiritually, for the good of Souls. All the Words
that I gave to this man on a mountain were not delivered
fully by those who were taught What I wanted to be
taught.

Today, in the time in which you live, you have
much responsibility. Many men of all races, all colors,
all creeds, would say I would not use a woman, I would
use a man at this time in the world. How can man
decide what I would use, My Reasons for who I would
choose, and yet men stand in judgment, even on this
night, against this instrument who speaks My Words
distinctly, lovingly and purely, through the Soul, to you.

I use a Soul. The Soul, as Part of the physical,
is the manner which and how I speak to you. Many
men say, 'The Father would not speak.' Who knows
better than The Father, who would speak?

To speak through an instrument, men of all kinds would expect Me to shout. If I am angry I shout, but there is no reason to shout on this night to you, for the Soul I hold, the Soul I speak through, is as your Soul Who listens intently to My Words on this night.

I want you to read again and again the Words I spoke through this Specific Letter to all men.*

So many in the world imitate My Form of Ecstasy in a human being. Their manner of so-called acceptance to someone speaking through them has many versions and many false backgrounds.

Why would I not speak? You know I have spoken before. I use one seed to deliver My Will, My Way. The Soul accepts the Delivery. The physical says, 'God, not again,' but then submission of the will to My Will, What I Want Delivered, is important to Me.

Many men and women walk the earth, wanting a Special Blessing such as This, but I, your Father say, 'The degree of responsibility is beyond man's ability to discern; a Power a human body must accept at a time such as this, it is indiscernible by human standards.'

Thousands and thousands and thousands of Words have been given to you and others, telling of the responsibility of the Soul, That Portion of Me that is within each one here and in each human being throughout the world.

I will tell you something you could not recognize now, as My Words flow through this instrument who looks like you, feels many ways like you feel, but there would be a joy in the Words if the joy would extend to you happiness, laughter, and something to relax you so you could leave here and say, 'Wasn't that a fun time?' But I want you to leave here on this night and remember that it was a Blessed Time, a Blest Time, and a Time that is not always repeated in a lifetime.

It is not natural for a human being to want to be held so tightly, because the will wants the freedom to act, but it took a long preparation for this woman you know, to accept this manner of living, this form of speech, this acceptance of My Will, so you could be reached.

I give her moments of lightness, for the physical is extremely frail. The physical I speak through is fragile, and has become more so because of the Power that I use to reach you, for the benefit of your Soul, and to give you the strength to pass on to others, through

example, through words, through everything you do.

I have spoken much today, to give her the strength to be with you tonight. It has been a very tiring, difficult time, and what you do not know is she has just apologized because she was so tired, but she speaks like this to Me, but in truth, she would hide her tiredness from you; she always has, and you have My Word, she always will.

If you go some place tonight and you say, 'Do you know Who spoke at a meeting I was at?' and you told someone in a loving way, they might even laugh. But that's what they did to Moses. He said, 'I have a Message, you must listen.' 'Who gave the Message?' 'The Almighty One.' 'Who are you, Moses, to have Him speak? Who are you, for Him to use in such a grand manner?' And I say to you tonight, Moses' answer is and was the same as hers.

You are loved much. There is no preparation for My Words through her. My Words come with Love, Understanding, for you are children that I put in the world.

Every child born to the world is born for a purpose. Every child does not reach the fulfillment humanly expected, but I always look for that Soul to rise above all questions, all wrong, for you see, the enemy is always around, trying desperately to gather Souls, to take That Part of Me that I gave to you at the moment of conception.

You are blessed in many ways. Your presence here tonight is a blessing you could not understand. Your presence here tonight is your will as man.

I hold her deeper than you know. The body belongs to Me, because of the responsibility her will has accepted. I must give her time to relax after this ordeal for, in reality, the human body says, 'I feel I will break, my God, under this task.' So be it."

*Refers to the Revelation delivered by God the Father on October 18, 1991 at 1:25 p.m., which had been read earlier in the meeting, to the women in The Society Of The Little Way.

Saint Joseph's Hill Of Hope
Brea, California 92822 U.S.A.
www.TheMiracleOfStJoseph.org
All Revelations are delivered spontaneously and continuously as witnessed by all those present at the time.

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2043. Re: Another 2M antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 06:11:50 UTC
From: Alan Spicer <communications@marinetelecom.net>
Message-ID: <j2d1na$1ep$1@dont-email.me>
Source record: 3994

Designed to receive 54 Mhz to 210 Mhz ...
http://en.wikipedia.org/wiki/North_American_broadcast_television_frequencies
... Not going to work very well unmodified.

Keep the rotor and get an actual 2 meter yagi. I don't mean to discourage
you from building antennas. But you would probably be gutting that thing for
pieces of aluminum to cut to proper lengths to make a 2 meter antenna.

---

73 de KA4UDX,

Alan Spicer

"Padraigh ProAmerica" wrote in message
news:25757-4E3F03AB-518@storefull-3172.bay.webtv.net...

I was offered (for free) a VHF TV yagi anntena w/ rotor. Question: would
this work a 2M antenna? With a tuner, maybe?

--
"The French have neither summer nor winter nor morals." -- Mark Twain

2044. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 06:14:19 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <p51k47diga1usuj74kumc4h3h5ii562jhl@4ax.com>
Source record: 3995

On Mon, 15 Aug 2011 08:53:35 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>http://imageshack.us/photo/my-images/837/snc14096a.jpg/

Cute cat. However the antenna seems a bit odd. The high carbon steel
tape measure elements are not the best for RF conductivity. Good
enough for receive, but I would check for RF heating in transmit.

The tape measure is also not a circular rod element. You probably
modeled it using a circular cross section. That's probably a good
first try, but if you want accuracy, the actual element cross section
will be needed. That's what I had to do with this stamped sheet metal
antenna:
<http://802.11junk.com/jeffl/antennas/mfj1800/>

>(Without the hair pin match)
>http://img5.imageshack.us/img5/3479/snc14112hairpin.jpg
>Therefore I put the driver on a slider
>http://img841.imageshack.us/img841/8530/snc14097small.jpg

I presume the hairpin match goes between the wing nuts. Looking at
the photo of the hairpin, it seems small for matching a simple 2m
yagi. It's also a good idea to add a balun and to ground the center
of the hairpin match to the center boom.
<http://vk1od.net/antenna/misc/BetaMatch.htm>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2045. Re: Using speaker wire for a dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 06:22:58 UTC
From: Alan Spicer <communications@marinetelecom.net>
Message-ID: <j2d2c6$5ok$1@dont-email.me>
Source record: 3996

No sir, your radio already knows that trick. It will feel that it is being cheated by you using speaker wire and will refuse to send RF out the antenna jack. (I'm just kidding.) :-)

But seriously it should work just fine. Treat it as insulated 18 gauge wire. I did use Radio Shack Flat copper Mega Speaker Cable as Ground Radials - I zipped them in half and each package made 2 radial wires.

73 de KA4UDX,

Alan Spicer

"KD2AIP" wrote in message
news:e5bba3fc-510d-49a2-b392-c9b63e539606@eb1g2000vbb.googlegroups.com...

Anyone have experience making a dipole from 18 gauge speaker wire? I have a whole lot of it lying around the house, and was wondering if I could put it to some good use.

2046. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 07:53:52 UTC
From: "Helmut Wabnig"
Message-ID: <jb7k4718sgb8gk484ovmstvru9dpg1nsr6@4ax.com>
Source record: 3997

On Mon, 15 Aug 2011 18:30:05 +0100, Jeff <jeff@jsystems.com> wrote:

>>>
>>> Firstly it is not 'drag, drop& move'; it is click, drag& drop! Try
>>> reading the Help a little more closely, you will find that it says:
>>>
>>> "The next thing to do is add a voltage-source. While still in Add-mode,
>>> click the 'Source button' (right of the 'Wire button'). Next click and
>>> hold down your left mouse-button somewhere in the picture-box. At the
>>> current mouse-pointer position a new source-object is displayed. Drag
>>> the source-object to the middle of the second wire, just between the two
>>> lower wires-ends of the feedline and release the mouse-button. When
>>> properly positioned a new source is now added."
>>>
>> It does not work as described, when inserting a source on a dipole
>> wire in the center segment, one of the first things to do in Example1.
>>
>>
>> w.
>
>
>Utter Rubbish!!! It works EXACTLY as described!!!
>
>Hold down the left mouse button, drag the source to the segment where
>you wish it to be, release the button - exactly as described!!!
>
Activate the source & add button, then click on the middle segment
and expect the source symbol to appear there.
It appears but vanishes in an instant leaving a highlighted segment.
If the sideways motion is not performed, you do not get it.
You have to pull it and that is counterintuitive.
The above description may be correct in that you have to pull
the object. After having worked with dozens of CAD programs
I did not expect such a trap.
Many users claim similar difficulties, the internet is full of them.
Honestly, who reads all the help files, hundreds of pages?

I know there are people who think every bug is a feature.
Those people do not live from their own work,
somebody else must pay for their living.

It took me 3 days to learn 4nec2 because of a long list of "features"
including data loss and program crashes. "Notify the author"
it suddenly says. The user sits there "What did I do wrong?"
which is a nagging question actually when the fault lies elsewhere.

All that counts is WALL CLOCK TIME.
But it's free.

w.

2047. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 08:48:00 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <j2das6grr1@speranza.aioe.org>
Source record: 3998

>>
>>
>> Utter Rubbish!!! It works EXACTLY as described!!!
>>
>> Hold down the left mouse button, drag the source to the segment where
>> you wish it to be, release the button - exactly as described!!!
>>
> Activate the source& add button, then click on the middle segment
> and expect the source symbol to appear there.
> It appears but vanishes in an instant leaving a highlighted segment.
> If the sideways motion is not performed, you do not get it.
> You have to pull it and that is counterintuitive.
> The above description may be correct in that you have to pull
> the object. After having worked with dozens of CAD programs
> I did not expect such a trap.
> Many users claim similar difficulties, the internet is full of them.
> Honestly, who reads all the help files, hundreds of pages?
>
>
> I know there are people who think every bug is a feature.
> Those people do not live from their own work,
> somebody else must pay for their living.
.

Well if you don't actually follow the instructions on the Help then what
can you expect! Don't blame the program and then say the Help is wrong
or not there! RTFM.

"click and hold down your left mouse-button somewhere in the
picture-box" then "Drag the source-object to the middle of the second wire".

Jeff

2048. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 09:14:24 UTC
From: "Helmut Wabnig"
Message-ID: <5ack47hchuchi9fkd4iv2qq9pvl3a3f354@4ax.com>
Source record: 3999

On Mon, 15 Aug 2011 15:09:52 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>.............
>
>>
>> A Yagi with fixed element positions can only be used for 1 frequency
>> (within a very small range) and therefore may be impractical
>> in many situations. The CEBIK tape measure antenna with their
>> water-pipe construction could be easily modified with a moveable
>> center element.
>
>this is just not true (otherwise the SteppIR wouldn't work.. it has
>fixed element spacing and works over a huge (>1 octave) frequency range)
>with fairly good performance.
>
>One can also do similar with fixed spacing, and fixed length, and
>reactive loading of the elements at the centers.
>
>
In theory (from the simulations) the Yagi is rather narrowband.
Especially the F/B ratio is very frequency dependend.

The SteppIr does vary the elements, if I understand it correctly?
For practical reasons they do not change element positions on
the boom but sufficiently adapt to each frequency band.

For the same practical reasons I do it the other way round,
move the driver element in the 3 element yagi, and leave
everything else as is. This is intended for mobile direction finding.
Based on the Cebik pages and improved by making it tuneable
by moving the driver along the boom.

There is a story behind.
ARDF is a sporting endeavour, where people run around in
a restricted area searching for a defined signal, or several
foxes, as they are called. The antennas are optimized for the
fox frequencies. That's child play compared to real world.

One night I got a phone call from a desperate guy in Bosnia.
They had held a model flight competition there, class F1C,
and his model airplane flew ten kilometers away.
They put crash transmitters on the models and they
range in frequency from 140 to 160 Mhz without any approved
frequency raster, just what they can get and not to disturb
the neighbour model transmitter. So they need equipment for

a 20 MHz range. Most of them use amateur radio handhelds.
The transmitters weigh about 5 grams.

The Yugoslavian Balkan war was just over, where the killed 200000
people by shooting and cutting throats, and the mine fields were
still active and most of them still are today. They put fences around
and automatic siren warnings. That desperate guy's model airplane
was in or near such an area and night doomed. He has searched
for the whole day , was exhausted and could not locate it.
"Signals from everywhere and from all directions", he said.
That model was his only one for the competition and very expensive,
they cost a few thousand dollars.

"Signals from everywhere and from all directions."
That is a very interesting statement. Did you ever experience such
a situation? I had to place foxes and go after them to find out what
the problem was which the guy described. I expected an easy job,
because I am such an old fart in radio engineering. It was late summer
and corn standing two meters high, railway routes nearby,
high voltage lines criscrossing the landscape, buildings, hills,
mountains, fences, and now imagine it's getting dark and you are
in a foreign country where you never had been before,
between lakes, rivers, wet ditches and waste water canals.
I never knew that 2 or 3 meter high corn fields act as an antenna
array. The power lines and railways are wave ducts of extraordinary
quality, every metal fence collects and reflects and adds to the
reflections from the rocky mountains. Electromagnetic interference
overlays the fox signal until you only hear noise and crackles.
There you go. I hope the reader can imagine what is the difference
to a well planned amateur sport radio fox hunting event.

Quickly I recognized that a fixed-frequency ARDF antenna is
not suited for the task and one must be able to tune the F/B ratio
for the different frequencies the transmitters use, in combination
with a conventional attenuator. If your antenna receives from the
back, you will hear "signals from all directions".

w.

2049. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 09:21:20 UTC
From: "Helmut Wabnig"
Message-ID: <ebdk47dk6lbcnlbf1600m5f5sm6117sj14@4ax.com>
Source record: 4001

On Mon, 15 Aug 2011 23:14:19 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>On Mon, 15 Aug 2011 08:53:35 +0200, Helmut Wabnig <hwabnig@.- ---
>-.dotat> wrote:
>
>>http://imageshack.us/photo/my-images/837/snc14096a.jpg/
>
>Cute cat. However the antenna seems a bit odd. The high carbon steel
>tape measure elements are not the best for RF conductivity. Good
>enough for receive, but I would check for RF heating in transmit.
>
>The tape measure is also not a circular rod element. You probably
>modeled it using a circular cross section. That's probably a good
>first try, but if you want accuracy, the actual element cross section
>will be needed. That's what I had to do with this stamped sheet metal
>antenna:
><http://802.11junk.com/jeffl/antennas/mfj1800/>
>
>>(Without the hair pin match)
>>http://img5.imageshack.us/img5/3479/snc14112hairpin.jpg
>>Therefore I put the driver on a slider
>>http://img841.imageshack.us/img841/8530/snc14097small.jpg
>
>I presume the hairpin match goes between the wing nuts. Looking at
>the photo of the hairpin, it seems small for matching a simple 2m
>yagi. It's also a good idea to add a balun and to ground the center
>of the hairpin match to the center boom.
><http://vk1od.net/antenna/misc/BetaMatch.htm>

Thank you for the links, appreciate your help.

I fear that in the end I will have to cut and tweak using the
antenna analyzer, and with the time perhaps find
"tape measure correction factors".
Want to keep the design as simple as possible,
and hope it works without a balun or additional tricks.
Am not yet sure if it will work that way, or not.

w.

2050. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 09:25:27 UTC
From: "Helmut Wabnig"
Message-ID: <9ldk47t2dlq4snlejupf9htcdnmluvqhbr@4ax.com>
Source record: 4000

On Tue, 16 Aug 2011 09:48:00 +0100, Jeff <jeff@jsystems.com> wrote:

>
>Well if you don't actually follow the instructions on the Help then what
>can you expect! Don't blame the program and then say the Help is wrong
>or not there! RTFM.
>
>"click and hold down your left mouse-button somewhere in the
>picture-box" then "Drag the source-object to the middle of the second wire".
>
>Jeff
Of course you are right,
but there are thousands of (unread) help pages left.
Should I read them all?

On YOUTUBE another (not me) user said, he falls asleep
after 4 pages of help text (the getting started stuff).
I printed the "getting started" but fell asleep after page 3.

w.

2051. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 09:49:27 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <j2defaomg1@speranza.aioe.org>
Source record: 4002

On 16/08/2011 10:25, Helmut Wabnig wrote:
> On Tue, 16 Aug 2011 09:48:00 +0100, Jeff<jeff@jsystems.com> wrote:
>
>>
>> Well if you don't actually follow the instructions on the Help then what
>> can you expect! Don't blame the program and then say the Help is wrong
>> or not there! RTFM.
>>
>> "click and hold down your left mouse-button somewhere in the
>> picture-box" then "Drag the source-object to the middle of the second wire".
>>
>> Jeff
> Of course you are right,
> but there are thousands of (unread) help pages left.
> Should I read them all?
>
> On YOUTUBE another (not me) user said, he falls asleep
> after 4 pages of help text (the getting started stuff).
> I printed the "getting started" but fell asleep after page 3.
>
> w.

Well since the instructions on how to add a source are on page one, it would appear that you went to sleep earlier than you thought!!

Just because a program does not work the way that YOU expect, or perhaps would like, does not warrant the out and out rant that you started this thread with.

All of the information on how to run the program was actually there if you had bothered to read it rather than wasting time complaining about nothing.

Jeff

2052. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 16:24:30 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2e5ju$74p$1@news.jpl.nasa.gov>
Source record: 4007

On 8/16/2011 2:25 AM, Helmut Wabnig wrote:
> On Tue, 16 Aug 2011 09:48:00 +0100, Jeff<jeff@jsystems.com> wrote:
>
>>
>> Well if you don't actually follow the instructions on the Help then what
>> can you expect! Don't blame the program and then say the Help is wrong
>> or not there! RTFM.
>>
>> "click and hold down your left mouse-button somewhere in the
>> picture-box" then "Drag the source-object to the middle of the second wire".
>>
>> Jeff
> Of course you are right,
> but there are thousands of (unread) help pages left.
> Should I read them all?
>
> On YOUTUBE another (not me) user said, he falls asleep
> after 4 pages of help text (the getting started stuff).
> I printed the "getting started" but fell asleep after page 3.
>
> w.

Should you read them?

Depends on if you want to make use of the program or not. for ANY modeling program (and any drafting program, as well) there's a fairly big first step in the learning curve.

And, because 4nec2 isn't a "drafting" or "drawing" program, it's UI doesn't follow the more common conventions. It's designed to make entering antennas easy for some subset of people. 4nec2 started with just using notepad to edit the NEC input deck and a formatted editor to edit cards.

Folks who start with EZNEC often find using raw NEC decks difficult, because they're used to the tabular model entry of EZNEC.

Folks who start with Visio, pre version 5, find modern versions of Visio a pain, because the UI changed to conform to PowerPoint.

Autocad is certainly not "intuitive" unless you've been using it a while.

For what it's worth, the 4nec2 help files are a whole lot better than the documentation for NEC itself.

Beyond the details of entering the geometry and simulation conditions (which are idiosyncratic for ALL antenna modeling programs.. no two are

alike, nor are the input file formats directly compatible, for the most part)

There's a fair amount of "art" in effectively using the programs and understanding the limitations inherent in the modeling technique being used (method of moments on wires for NEC). It's not just a matter of creating a bazillion segments and letting your processor grind away, because there's all sorts of subtle numerical precision issues.

4nec2 (and EZNEC) both provide some amount of help in keeping you away from egregious model errors (segment lengths that are unreasonable relative to wavelength and/or wire diameter).

There's also well known techniques for modeling flat surfaces with meshes that provide results that match actual measurement, even if the model doesn't "look" quite right if you render it.

NEC is very much a power tool like a chainsaw.. you can do things that you couldn't do with hand tools, but you can also do things that you don't really want. It takes some practice and background knowledge to use it effectively.

The value of purpose built modeling tools like AO is that they have a very constrained model space tuned to a particular application, so the program can
a) have a simple model entry (e.g. you can only do Yagi-Uda)
b) have a sophisticated objective function for optimization

NEC is a lot harder: you can enter any geometry from a simple wire to an entire battleship with 100s of antennas.

2053. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 16:25:45 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <0r4l475ae0a3rr80v9i1pnropkd8c37nvt@4ax.com>
Source record: 4003

On Tue, 16 Aug 2011 11:21:20 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>Thank you for the links, appreciate your help.

Y'er welcome. However, I still don't have a clue what you're trying to accomplish. If you want super front to back ratio for a direction finding antenna, you need a wall, not a phased single wire reflector as in a yagi. Something like a dish or a panel reflector will work, but is probably not practical. As you discovered, the position of the reflector is very critical for maintaining the best F/B ratio. It's also very sensitive to frequency. You might be able to make it work with a flimsy tape measure, but it probably won't be very stable in the field.

Permit me to offer another idea. Instead of direction finding by the peak signal, do it with a null. Two identical dipoles, a T connector, and some coax, are all that are required. Space them about 1/4 wavelength apart. Insert a 3/4 wave coax phasing section between the two dipoles. Signals from the front antenna will cancel when they reach the 2nd antenna yielding a cardioid pattern. It will be just as critical and sensitive to frequency and position as your yagi, but methinks will work better. I've obtained 50dB deep nulls with this method. The good news is that you really only need one adjustment on the antenna, which is the relative distance between dipoles, which is easily accomplished by sliding the antenna on the boom. The adjustment range is limited, so an assortment of coax phasing lengths will also be needed. Adjusting the antenna for best null at a specific frequency, prior to transmitter hunting, is a necessary complication.

I also use this method on my home base station to null out a rather strong repeater, so I can talk to a distant repeater on the same frequency. I've also built one using 4 identical rubber ducky antennas for 2meters. It sorta worked but I could only get a 10dB deep null.

Both EZNEC and 4NEC have HF examples of this type of antenna.
cardioid.ez and \models\HFvertical\cardioid.nec

>I fear that in the end I will have to cut and tweak using the
>antenna analyzer, and with the time perhaps find
>"tape measure correction factors".

More bad news. You really do have to TEST your creations to see if the simulations and models are correct. I tend to make far too many

simplifying assumptions in my models, which show up as errors in the actual construction.

>Want to keep the design as simple as possible,

Simple is good. Crude is not. Recognizing the difference is difficult.

>and hope it works without a balun or additional tricks.
>Am not yet sure if it will work that way, or not.

It won't work well without a balun. The coax will radiate, giving unpredictable directional indications. You can minimize the effects with ferrite beads, a sleeve balun, or with just a coax loop.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2054. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 16:28:00 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2e5qg$79d$1@news.jpl.nasa.gov>
Source record: 4006

On 8/15/2011 4:46 PM, Owen Duffy wrote:
> Jim Lux<james.p.lux@jpl.nasa.gov> wrote in
> news:j2c6oa$i4v$1@news.jpl.nasa.gov:
>
> ...
>> Most UL listed wall wart power supplies these days can hold off
>> several thousand volts between inside and outside (that's the so
>> called "hi pot" test rating).
>
> That may be so at DC or 60 Hz, but it may be relatively transparent to
> the spectral components of lightning discharge current, components that
> may me significant to 100MHz or more.
>

yes.. although for the most part, if you're looking at the transient
from a "spark gap arrested lightning impulse" you probably don't have
quite that spectrum.

> There is no simple broadband equivalent circuit of the power
> transformer, but at 100MHz, it might look more like some series
> capacitance of the order of 100pF from primary to secondary for common
> mode excitation... and that may well allow damaging currents to flow
> (without insulation breakdown or permanent damage to the transformer),
> whether driven from the coax shield, the power line, or more likely,
> both.

Could be.

Standler's book on transient protection comments that several studies
have shown that most modern consumer electronics can tolerate standard
transient impulses (both the 1 us and 6 us rise time variety) of several
kV. The not so halcyon ESD days of TTL gates connected directly to the
device connector pins are long gone.

>
> Just another factor that makes design of bullet proof solutions so
> challenging.
>
> Owen

2055. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 16:32:03 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <qi6l471jl8obtrc72isaifg2tlmbfnq77v@4ax.com>
Source record: 4004

On Tue, 16 Aug 2011 11:14:24 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>The SteppIr does vary the elements, if I understand it correctly?
>For practical reasons they do not change element positions on
> the boom but sufficiently adapt to each frequency band.

Perhaps reading the Steppir patent might be illuminating:
<http://www.google.com/patents?id=rw6xAAAAEBAJ>
Note that the elements do not change position, only their length.
--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2056. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 16:51:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2e779$7kq$2@news.jpl.nasa.gov>
Source record: 4005

On 8/16/2011 9:25 AM, Jeff Liebermann wrote:
> On Tue, 16 Aug 2011 11:21:20 +0200, Helmut Wabnig<hwabnig@.- ---
> -.dotat> wrote:
>
>> Thank you for the links, appreciate your help.
>
> Y'er welcome. However, I still don't have a clue what you're trying
> to accomplish. If you want super front to back ratio for a direction
> finding antenna, you need a wall, not a phased single wire reflector
> as in a yagi. Something like a dish or a panel reflector will work,
> but is probably not practical. As you discovered, the position of the
> reflector is very critical for maintaining the best F/B ratio. It's
> also very sensitive to frequency. You might be able to make it work
> with a flimsy tape measure, but it probably won't be very stable in
> the field.
>
> Permit me to offer another idea. Instead of direction finding by the
> peak signal, do it with a null.

Exactly.. you can get very sharp nulls pretty easily. For simple antennas, there's usually an ambiguity, but you can resolve that by other means.

2057. Re: Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 18:01:24 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <32a98$4e4aaf93$5355cc82$24476@cache100.multikabel.net>
Source record: 4008

El 09-08-11 1:14, DrYattz escribiï¿½:
> My 15 year old son is exploring shortwave radio, and has purchased a
> Realistic DX-394a. We're experimenting with various antenna
> configurations, now trying an inverted L. The layout so far can be
> seen at:
>
> http://i258.photobucket.com/albums/hh242/winwinsit/antenna2.jpg
>
> So, a single strand wire crosses the yard at a height of about 14-18
> feet, stretched east-west, insulated at each end, and another length
> of wire connected to it drops to below a window, then passes through
> the wall and to the Hi-Z antenna input. (The diagram shows a
> lightning arrestor, but that isn't attached yet.)
>
> But it seems to offer little or no advantage over the little
> telescoping antenna. In fact, the best reception is when we touch the
> antenna lead wire to the telescoping antenna. Do you suggest:
>
> 1) an antenna tuner?
>
> 2) coaxial cable running from the radio (Lo-Z input) to the end of the
> 75 foot run?
>
> 3) a north-south run?
>
> 4) a completely different configuration?
>
> 5) anything else?
>
> Rees Chapman
> winwinsit at gmail period com
>
>
>

Hello Rees,

Mostly it isn't the problem to get sufficient signal, but to get
sufficient signal to noise ratio. If you can operate it outside the
house (with a seperate 12V battery), try this and see whether the
reception improves. Move around to find sweet spots. You may have
interference from indoor electronic equipment and this will be less
when you are outside. Don't run an extension cord to feed the receiver
as this may carry interference from inside towards the receiver.

As this receiver is rather sensitive, a large antenna may result in worse reception due to overloading the input circuitry. Here a so called preselector can help, expecially when you have some strong nearby transmitters. If you like constructing, building such equipment can be a nice project.

If outside reception is better, you may need coaxial cable to "transport" the antenna signal to receiver without picking up interference from indoor equipment.

Don't hesitate to come back with other questions or suggestions.

Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

2058. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 20:25:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9ekl47h83la4g4tlcn4kvo8a0gtkc99cm4@4ax.com>
Source record: 4009

On Tue, 16 Aug 2011 11:14:24 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>"Signals from everywhere and from all directions."

Hi Helmut,

The signal is too STRONG. I'm surprised you have not recognized this
common fox hunting problem.

There needs to be an attenuator between the antenna and the receiver.

73's
Richard Clark, KB7QHC

2059. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 21:52:38 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <39ol4714lqqgjv8b09g6qrria77ddgtge0@4ax.com>
Source record: 4010

On Tue, 16 Aug 2011 09:51:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>On 8/16/2011 9:25 AM, Jeff Liebermann wrote:
>> Permit me to offer another idea. Instead of direction finding by the
>> peak signal, do it with a null.

>Exactly.. you can get very sharp nulls pretty easily. For simple
>antennas, there's usually an ambiguity, but you can resolve that by
>other means.

With the cardioid pattern, there's no ambiguity. With a deep null,
and a non-reflective environment, it's easy to use. However,
reflections off buildings and hills are a problem. The antenna is
roughly an omnidirectional antenna, and reflections will appear to
fill in the deep null. Not much can be done about that except to move
and try a different location. My favored method is by using a map.
Find a position, determine a bearing, and draw a line of position on
the map. Then, find a different location, and do it again. Repeat as
often as practical generating as many LOP's as possible. Some of the
LOP's will be totally insane, but a majority should cross at one point
on the map. (This has been automated in software, but a map is good
enough).

In 1976, I helped design the AN/SRD-21 homer DF, which DOES have a 180
degree ambiguity.
<http://802.11junk.com/jeffl/AN-SRD-21/>
If the homing receiver works in the same manner as described in the
above manual (PIN antenna switch, synchronous demodulator, charge
pump, and zero center meter), resolving the ambiguity is easy. Just
rotate the homing antenna to the right. If the zero center meter
indicates that you should turn back to the left, then you have the
correct direction. If it indicates that you should continue to turn
to the right, then you have the wrong direction.

This has nothing to do with the topic at hand, but I thought it might
be of interest. Some of my ancient comments on Doppler direction
finding:
<http://www.qsl.net/n9zia/doppler_notes1.txt>
<http://www.qsl.net/n9zia/doppler_notes2.txt>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2060. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-16 22:16:23 UTC
From: dplatt@radagast.org
Message-ID: <nq6rh8-56c.ln1@radagast.org>
Source record: 4011

In article <39ol4714lqqgjv8b09g6qrria77ddgtge0@4ax.com>,
Jeff Liebermann <jeffl@cruzio.com> wrote:

>With the cardioid pattern, there's no ambiguity. With a deep null,
>and a non-reflective environment, it's easy to use. However,
>reflections off buildings and hills are a problem. The antenna is
>roughly an omnidirectional antenna, and reflections will appear to
>fill in the deep null. Not much can be done about that except to move
>and try a different location. My favored method is by using a map.
>Find a position, determine a bearing, and draw a line of position on
>the map. Then, find a different location, and do it again. Repeat as
>often as practical generating as many LOP's as possible.

I have seen recommendations that one do this by proceeding in a
straight line, taking bearings at positions of around 1/4 wavelength
or so. The effects of multipath will tend to cause the measured
bearing to wobble back and forth across an arc (as you go down the
line) and the true bearing will tend to be close to the center of that
arc.

I haven't tried this approach myself... but it might combine well with
your "take readings from lots of different locations" approach, by
helping cancel out some of the effects of multipath.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2061. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-17 00:13:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2f12qfdj1@news.jpl.nasa.gov>
Source record: 4012

On 8/16/2011 3:16 PM, Dave Platt wrote:
> In article<39ol4714lqqgjv8b09g6qrria77ddgtge0@4ax.com>,
> Jeff Liebermann<jeffl@cruzio.com> wrote:
>
>> With the cardioid pattern, there's no ambiguity. With a deep null,
>> and a non-reflective environment, it's easy to use. However,
>> reflections off buildings and hills are a problem. The antenna is
>> roughly an omnidirectional antenna, and reflections will appear to
>> fill in the deep null. Not much can be done about that except to move
>> and try a different location. My favored method is by using a map.
>> Find a position, determine a bearing, and draw a line of position on
>> the map. Then, find a different location, and do it again. Repeat as
>> often as practical generating as many LOP's as possible.
>
> I have seen recommendations that one do this by proceeding in a
> straight line, taking bearings at positions of around 1/4 wavelength
> or so. The effects of multipath will tend to cause the measured
> bearing to wobble back and forth across an arc (as you go down the
> line) and the true bearing will tend to be close to the center of that
> arc.
>
> I haven't tried this approach myself... but it might combine well with
> your "take readings from lots of different locations" approach, by
> helping cancel out some of the effects of multipath.
>

There's a photograph of this technique on a field with little flags at different distances all oscillating around a single line illustrating it in some ARRL publication (probably an antenna compendium, but maybe the handbook or antenna book).

2062. Re: Starting out. . .

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-17 01:24:56 UTC
From: Sal <sobars@aol.com>
Message-ID: <j2f595$b6m$1@dont-email.me>
Source record: 4013

"Jim Higgins" <invalid@invalid.invalid> wrote in message
news:i83l47d9opjj25ihap12mrh27i9ja03lg3@4ax.com...
> On Wed, 10 Aug 2011 02:39:47 -0700 (PDT), DrYattz
> <winwinsit@gmail.com> wrote:
>
>>THANKS, everyone, for the very thoughtful and thorough responses!
>>_________________________________
>>
>>John KD5YI wrote:
>>
>>> Check for a slide switch on the back that switches from internal to
>>> external antenna.
>>
>>Would that be the ATT 0dB - 20dB switch? They show it in a figure,
>>but don't say what it's for. I'll try it.
>
>
> No, that's an attenuator. 0dB gives full signal strength and 20dB
> reduces it by 20dB. Very basically it's used when signals are too
> strong. Play with it as you receive signals of various strengths and
> with various strength signals interfering and you'll discover where it
> can help.

On the schematic diagram that I retreived, the attenuator is only in the
path of the LO-Z antenna, the SO-239 jack -- the one with the threads on it.

The telescoping whip and the High-Z jack are electically almost the same
place, separated only by a single capacitor which couples signals from the
HI-Z jack into the path from the telescoping whip. No attenuator in that
path.

2063. Re: 4nec2 hidden variables.

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-17 04:35:42 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <05fm475oti6rqso78mj9f6cr9ibioce963@4ax.com>
Source record: 4014

On Tue, 16 Aug 2011 17:13:15 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>On 8/16/2011 3:16 PM, Dave Platt wrote:
>> In article<39ol4714lqqgjv8b09g6qrria77ddgtge0@4ax.com>,
>> Jeff Liebermann<jeffl@cruzio.com> wrote:
>>
>>> With the cardioid pattern, there's no ambiguity. With a deep null,
>>> and a non-reflective environment, it's easy to use. However,
>>> reflections off buildings and hills are a problem. The antenna is
>>> roughly an omnidirectional antenna, and reflections will appear to
>>> fill in the deep null. Not much can be done about that except to move
>>> and try a different location. My favored method is by using a map.
>>> Find a position, determine a bearing, and draw a line of position on
>>> the map. Then, find a different location, and do it again. Repeat as
>>> often as practical generating as many LOP's as possible.
>>
>> I have seen recommendations that one do this by proceeding in a
>> straight line, taking bearings at positions of around 1/4 wavelength
>> or so. The effects of multipath will tend to cause the measured
>> bearing to wobble back and forth across an arc (as you go down the
>> line) and the true bearing will tend to be close to the center of that
>> arc.
>>
>> I haven't tried this approach myself... but it might combine well with
>> your "take readings from lots of different locations" approach, by
>> helping cancel out some of the effects of multipath.

>There's a photograph of this technique on a field with little flags at
>different distances all oscillating around a single line illustrating it
>in some ARRL publication (probably an antenna compendium, but maybe the
>handbook or antenna book).

I think the photo was on interferometry for direction finding, where
they were trying to plot the wavefront pattern. I recall the photo,
but I couldn't find it in the ARRL Antenna Handbook (19th edition).
However, the handbook does have a full chapter on direction finding
(Ch 14) which includes the cardioid antenna.

The purpose of me using multiple bearings is simply to eliminate the
effects of reflections. It's not totally foolproof, but better than
chasing a single bearing.

There are better ways, but they're usually not very portable. A
rotating antenna direction finder can easily distinguish between the
incident signal from a reflection. Such direction finders display

something like the antenna pattern on a polar display. The incident signal is very steady and does not move in azimuth. Reflections jitter dramatically in both amplitude and azimuth. They also tend to appear and disappear rapidly and erratically.

Rotating antenna DF antennas:
<http://www.rockwellcollins.com/sitecore/content/Data/Products/EW_and_Intelligence/SIGINT/ANT-1040A_Airborne_Spinning_DF_Antenna.aspx>
<http://www.rockwellcollins.com/sitecore/content/Data/Products/EW_and_Intelligence/SIGINT/ANT-1040_Spinning_DF_Antenna.aspx>
20 in diameter, 25 in high, 50 lbs.

Another method that I've used is to generate a narrow "beam" using two identical yagi antennas that share a common reflector. The antennas are oriented about 20 degrees apart with the reflector at the vertex. A near perfect audible square wave drives two identical PIN diode switches on the driven elements. While the antenna may have a -3dB beamwidth of perhaps 10 degrees, the LOP of equal antenna signal levels is extremely sharp, and often less than 0.5 degrees. A synchronous demodulator, charge pump, differential amp, and zero center meter complete the systems. You can also do it by ear by listening to the null at the switching frequency. If the antennas and PIN diode switches are perfectly symmetical, all boresight error cancel. I originally contrived the system by reading about the Lorenz beam bombing system used by the German's during WWII, but later discovered that others had anticipated the idea.

--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2064. HOT VIDEOS FOR YOUTH AND WORLD SEXIEST GIRLS HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-17 09:29:48 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <56f61d73-065e-40a8-a39e-94e338cee33b@y16g2000yqh.googlegroups.com>
Source record: 4015

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SEXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

2065. Re: Lightning arrestors

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-17 16:00:40 UTC
From: Tim Shoppa <tshoppa@gmail.com>
Message-ID: <d8bececf-19ea-4217-9fa2-2c0e0c16f921@h7g2000yqm.googlegroups.com>
Source record: 4016

On Aug 12, 5:23 am, DrYattz <winwin...@gmail.com> wrote:
> Having but recently returned to the world of shortwave radio, I'm
> trying to be better informed about technical and safety issues than I
> was as a kid. Now a homeowner with a mortgage and a homeowner's
> insurance policy, I'm worried about lightning protection. I'm
> receiving only, not transmitting. I have a ground rod just outside the
> window where the antenna wire enters, and I intend to disconnect the
> antenna outside the house when I'm not using the shortwave. But I
> want to be extra careful!
>
> So I'm considering some options. Which make sense to you seasoned
> hams? Do any of these leave me open to my homeowner's insurance being
> voided if I get a direct hit by lightning?

Choice of device seems to be what you're concentrating on but I don't think the brand name of any device will figure into the solution at the insurance and electrical code level.

Correct bonding of the equipment ground/RF ground to the house ground at the entrance panel is the key for any of this. See e.g. W8JI's webpages.

Tim.

2066. direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-17 16:02:56 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2gong$17g$1@news.jpl.nasa.gov>
Source record: 4017

On 8/16/2011 9:35 PM, Jeff Liebermann wrote:
> On Tue, 16 Aug 2011 17:13:15 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:

> I think the photo was on interferometry for direction finding, where
> they were trying to plot the wavefront pattern. I recall the photo,
> but I couldn't find it in the ARRL Antenna Handbook (19th edition).
> However, the handbook does have a full chapter on direction finding
> (Ch 14) which includes the cardioid antenna.

Could be..

>
> The purpose of me using multiple bearings is simply to eliminate the
> effects of reflections. It's not totally foolproof, but better than
> chasing a single bearing.
>
> There are better ways, but they're usually not very portable. A
> rotating antenna direction finder can easily distinguish between the
> incident signal from a reflection. Such direction finders display
> something like the antenna pattern on a polar display. The incident
> signal is very steady and does not move in azimuth. Reflections
> jitter dramatically in both amplitude and azimuth. They also tend to
> appear and disappear rapidly and erratically.
>
<snip>
>
> Another method that I've used is to generate a narrow "beam" using two
> identical yagi antennas that share a common reflector. <snip>
>

A popular scheme from WJ 30 years ago (at the advent of digital signal processing) used 3 antennas in a triangle, and basically did interferometry. Sampling the data and using an FFT lets you do a wide band at one time (which is handy if you want to DF frequency hopping radios, which became very popular in the 80s)

2067. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 00:37:00 UTC
From: NM5K <none@invalid.net>
Message-ID: <j2kb81$7i6$1@dont-email.me>
Source record: 4018

On 8/17/2011 11:02 AM, Jim Lux wrote:

> A popular scheme from WJ 30 years ago (at the advent of digital signal
> processing) used 3 antennas in a triangle, and basically did
> interferometry. Sampling the data and using an FFT lets you do a wide
> band at one time (which is handy if you want to DF frequency hopping
> radios, which became very popular in the 80s)
>

As far as VHF, I know a couple here in town I've seen using arrays
for direction finding. But they used four verticals in a square.
It worked quite well. We had one guy that kept jamming one of the
repeaters, and the user of said array was easily capable of tracking
him down to a shopping center parking lot where the guy was sitting
in his car. I suspect the expression on the jammers face when the
tracker tapped on his window was priceless. :)
The device in the car used an array of LED's in a cross configuration
if I remember right.
He had the antenna array on the back of his truck. I don't recall the
element spacing.

2068. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 00:49:21 UTC
From: dplatt@radagast.org
Message-ID: <hho0i8-bv.ln1@radagast.org>
Source record: 4019

>As far as VHF, I know a couple here in town I've seen using arrays
>for direction finding. But they used four verticals in a square.
>It worked quite well. We had one guy that kept jamming one of the
>repeaters, and the user of said array was easily capable of tracking
>him down to a shopping center parking lot where the guy was sitting
>in his car. I suspect the expression on the jammers face when the
>tracker tapped on his window was priceless. :)
>The device in the car used an array of LED's in a cross configuration
>if I remember right.
>He had the antenna array on the back of his truck. I don't recall the
>element spacing.

Likely a Doppler direction-finder, possibly a Ramsey DDF-1 or one of
the others of that sort.

They aren't perfect... definitely subject to errors due to multipath,
and they works best when looking for a relatively clean, non-modulated
carrier. Fun, though... I've used mine on several occasions to locate
sources of QRM or jamming.

I've seen similar 4-vertical arrays on the roofs of some police cars
in my area. I infer that they're used to track down cars which have
had their Lojack locators triggered, after a car theft.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2069. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 16:33:36 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j2m390lrh1@news.jpl.nasa.gov>
Source record: 4020

On 8/18/2011 5:49 PM, Dave Platt wrote:

> I've seen similar 4-vertical arrays on the roofs of some police cars
> in my area. I infer that they're used to track down cars which have
> had their Lojack locators triggered, after a car theft.
>

You are correct with respect to LoJack, which radiates in the high VHF band. They do pseudo-doppler direction finding. I don't know how fashionable LoJack is these days... the sophisticated thieves know how to jam it. The widespread deployment of in-car GPS/cell (On-Star, etc) covers a lot of the other cases. Face it, most car thieves aren't all that smart.

2070. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 17:30:07 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <t06t479a3mevj1im3u85hu804r65nfqq4n@4ax.com>
Source record: 4021

On Thu, 18 Aug 2011 17:49:21 -0700, dplatt@radagast.org (Dave Platt) wrote:

>Likely a Doppler direction-finder, possibly a Ramsey DDF-1 or one of
>the others of that sort.

Agreed. There are various commerical implimentations. Basically, the diameter of the "circle" of antennas controls the deviation of the doppler signal heard on the receiver. The bigger the diameter, that better the signal to noise ratio. Typical is about 1/2 wave diameter. Smaller diameters will work, but require narrower digital filters which slow down aquisition.

>They aren't perfect... definitely subject to errors due to multipath,
>and they works best when looking for a relatively clean, non-modulated
>carrier.

Plenty more wrong with doppler DF. They don't like horizontally polarized signals. Reflections cause false readings. Forward alignment (0 degree heading) varies somewhat with frequency. Switching PIN diodes in the antenna cause interpolation errors every 90 degrees. Multiple transmitters on the same frequency result in erronious readings. Antenna tilt causes big errors. Reflections off building and in particular, the ground ahead of the antenna, causes errors. There are fixes and work around for most of these, but I haven't seen any on ham quality dopplers. Some of my ancient comments on the topic:
<http://www.qsl.net/n9zia/doppler_notes1.txt>
<http://www.qsl.net/n9zia/doppler_notes2.txt>

>Fun, though... I've used mine on several occasions to locate
>sources of QRM or jamming.

Ummm.... How did you get it to produce a usable bearing if there were two transmitters on the air at the same time? I can see if it you waited until the jammer was the only carrier, but few jammers allow that to happen. Mostly we use doppler for the traditional stuck transmitter.

Mini-rant: Why do almost ALL commerical radios have tx timeout timers, while almost ALL ham radios don't have this feature?

>I've seen similar 4-vertical arrays on the roofs of some police cars
>in my area. I infer that they're used to track down cars which have
>had their Lojack locators triggered, after a car theft.

That's LoJack. I rode around in test vehicle with one trying to make sense of the indication. In an urban jungle, it's very difficult to get a decent bearing due to all the building reflections. I suggested we try an elevated freeway, and the bearings improved. Works much better in the suburbs.

--
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2071. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 19:59:57 UTC
From: Sal <sobars@aol.com>
Message-ID: <j2mfbr$kl8$1@dont-email.me>
Source record: 4022

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:t06t479a3mevj1im3u85hu804r65nfqq4n@4ax.com...

< snip >

> Mini-rant: Why do almost ALL commerical radios have tx timeout
> timers, while almost ALL ham radios don't have this feature?

Is it because we're all known to be gasbags?

Timeout? Why the very *impudence* of that radio!!!

All kidding aside, we had a major repeater outage in San Diego some years ago. A 50w mobile, in the middle of a hotel parking lot, was on the air for hours, holdng the repeater. The T-hunters who found the car ID'ed the owner by his callsign plate and contacted him in the hotel. It was the old microphone-between-the-seat-cushions trick. Timeout would have helped that day.

"Sal"

2072. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 20:12:33 UTC
From: dplatt@radagast.org
Message-ID: <hms2i8-02s.ln1@radagast.org>
Source record: 4025

In article <t06t479a3mevj1im3u85hu804r65nfqq4n@4ax.com>,
Jeff Liebermann <jeffl@cruzio.com> wrote:

>>Fun, though... I've used mine on several occasions to locate
>>sources of QRM or jamming.
>
>Ummm.... How did you get it to produce a usable bearing if there were
>two transmitters on the air at the same time? I can see if it you
>waited until the jammer was the only carrier, but few jammers allow
>that to happen. Mostly we use doppler for the traditional stuck
>transmitter.

A lot of the jamming in question is jamming of repeaters, so you are
DF'ing on the repeater's input frequency.

If you have a rough idea where the jammer is operating, you can often
get a Doppler detector (e.g. on a car) into that area and get a decent
signal from it when he's jamming... but be far enough away from the
person being jammed that you don't hear any of his signal (although
the repeater does).

A Dopper rig on the roof of a car has a far smaller line-of-sight
radius than a repeater receiver mounted up on a high building or
hilltop.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2073. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 20:49:37 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <afht47dktgp60udjnuvgqg00mao5rqvpi8@4ax.com>
Source record: 4023

On Fri, 19 Aug 2011 12:59:57 -0700, "Sal" <sobars@aol.com> wrote:

>
>"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
>news:t06t479a3mevj1im3u85hu804r65nfqq4n@4ax.com...
>
>< snip >
>
>> Mini-rant: Why do almost ALL commerical radios have tx timeout
>> timers, while almost ALL ham radios don't have this feature?
>
>Is it because we're all known to be gasbags?

Yes. That's also why many Japanese ham radios are severely lacking in
microphone gain. I guess they assume that all Americans are always
yelling.

>Timeout? Why the very *impudence* of that radio!!!

Ok, bad choice of a name for the timer. Perhaps "anti-ratchet mouth"
or "monolog restrictor" might be better.

>All kidding aside, we had a major repeater outage in San Diego some years
>ago. A 50w mobile, in the middle of a hotel parking lot, was on the air for
>hours, holdng the repeater. The T-hunters who found the car ID'ed the owner
>by his callsign plate and contacted him in the hotel. It was the old
>microphone-between-the-seat-cushions trick. Timeout would have helped that
>day.

Yep. It's all too common. My guess is one every month or so.
Unfortunately, I managed to jam the microphone under the debris pile
that usually clutters the passenger seat, jamming the local repeater.
I was easily identified by the classical music in the background since
nobody else around listens to classical music. What's really
irritating are the number of packet radios that end up on repeater
frequencies. Usually, we can decode the call sign and contact the
culprit. Occasionally, there's no call sign as the owner is trying to
setup his TNC. There's also the stuck transmitter on commercial and
public safety frequencies. Those are fun and gets us plenty of points
from the various agencies. Extra credit to the local comm shop that
likes to defeat the timeout timer, for no obvious reason.

My favorite stuck transmitter was on marine channel 16. There was a
very strong carrier on Ch 16, that could be heard all over Monterey
Bay. Everyone dug out their DF hardware and the searching began.
Strong signal, no modulation, 100% duty cycle. This should be easy.

Right...

After 5 days of bad guesses and dead ends, the culprit turned out to be a marine base station on Fremont Pk (3,000ft). It was rarely used and was only functional in order to maintain the license. Something went wrong with the DC wireline control system (with no timer) which stuck it on the air. Why so difficult? The strong signal created a wide assortment of reflections. Everyone had trouble separating the strong reflections from the incident signal with the Doppler DF boxes. I was using my rotating antenna kludge, but stupidly used a 5 element yagi tuned to 146Mhz. At 156.8Mhz, I later discovered that it had almost as much gain towards the back of the antenna as it did in the forward direction.

Incidentally, there's another difference between ham and commercial mobiles. Commercial mobiles have a PL hang up function, where the receiver is in PL decode when the mic is hung in the hanger, and goes to carrier squelch when removed. Many ham mobiles seem to be missing this useful feature.

--
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2074. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 21:00:51 UTC
From: dave <dave@dave.dave>
Message-ID: <4e4ecf03$0$12469$bd467cd0@news.dslextreme.com>
Source record: 4024

Jeff Liebermann wrote:

>
> Incidentally, there's another difference between ham and commercial
> mobiles. Commercial mobiles have a PL hang up function, where the
> receiver is in PL decode when the mic is hung in the hanger, and goes
> to carrier squelch when removed. Many ham mobiles seem to be missing
> this useful feature.
>
>

This is so the commercial operator listen to the whole channel (and not just his company's CTCSS filtered traffic) prior to transmitting. A typical ham channel is continuously monitored and everyone has the same CTCSS tone.

2075. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-19 21:20:55 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <lmkt47t94vtf52aqme763u65jj4ge8utrg@4ax.com>
Source record: 4026

On 19 Aug 2011 21:00:51 GMT, dave <dave@dave.dave> wrote:

>Jeff Liebermann wrote:
>> Incidentally, there's another difference between ham and commercial
>> mobiles. Commercial mobiles have a PL hang up function, where the
>> receiver is in PL decode when the mic is hung in the hanger, and goes
>> to carrier squelch when removed. Many ham mobiles seem to be missing
>> this useful feature.

>This is so the commercial operator listen to the whole channel (and not
>just his company's CTCSS filtered traffic) prior to transmitting. A
>typical ham channel is continuously monitored and everyone has the
>same CTCSS tone.

Sure, but we have several other distant repeaters on the same channels
I like to monitor. I also hear plenty of RF leaks and odd sources of
RF as I drive around. So, I turn on the PL decode. With a ham radio,
I just pickup the mic, the receiver stays in PL decode, and proceed to
talk. With the Maxtrac I currently use in the car, as soon as I
pickup the mic, I hear all the junk, which helps to make sure I'm not
causing a problem by talking over other users on the distant
repeaters. (We have somewhat overlapping coverage areas). Also, when
in PL decode, there's about a 600msec delay before the rx squelch
opens, which obliterates the first two syllables.

--
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2076. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-20 08:26:15 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj4urt7.vba.nomail@xs8.xs4all.nl>
Source record: 4027

Jeff Liebermann <jeffl@cruzio.com> wrote:
> TNC. There's also the stuck transmitter on commercial and
> public safety frequencies. Those are fun and gets us plenty of points
> from the various agencies. Extra credit to the local comm shop that
> likes to defeat the timeout timer, for no obvious reason.

It does not seem the public safety radio devices always had this
timeout timer either.
Before the public safety services here switched to a digital system,
they used NBFM equipment from companies like Motorola, and it was very
common to hear stuck transmitters that blocked an entire repeater channel.
(which often consists of multiple receivers and transmitters over a city area)

Police used mobile transceivers in the cars on VHF and portables on UHF
so it usually was possible to alert the users on the other channel and
hope the stuck PTT key was found that way, but on major events like
queen's day it often happened that the portables channel was jammed for
half an hour or so before the culprit was found.

Of course the equipment was aging by that time, it probably was from
the eighties. Now they are all on TETRA and AFAIK that system allows
the operator to just tune out stuck transmitters or devices that fell
into wrong hands.

2077. Re: direction finding

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-20 15:43:15 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <2bkv47tkpfemavcgg9v0r0rj9apidfpc84@4ax.com>
Source record: 4028

On 20 Aug 2011 08:26:15 GMT, Rob <nomail@example.com> wrote:

>Jeff Liebermann <jeffl@cruzio.com> wrote:
>> TNC. There's also the stuck transmitter on commercial and
>> public safety frequencies. Those are fun and gets us plenty of points
>> from the various agencies. Extra credit to the local comm shop that
>> likes to defeat the timeout timer, for no obvious reason.
>
>It does not seem the public safety radio devices always had this
>timeout timer either.

Methinks that just about every radio, by Motorola and Kenwood have a
transmit timeout timer.
<http://802.11junk.com/jeffl/pics/drivel/slides/too-many-radios.html>
The dip switch programmable radios (SP10) do not have a timer, but
literally every radio that requires a computah to setup has a timer.
Note that I was talking about mobile radios all of which are
programmable, not handhelds.

>Before the public safety services here switched to a digital system,
>they used NBFM equipment from companies like Motorola, and it was very
>common to hear stuck transmitters that blocked an entire repeater channel.
>(which often consists of multiple receivers and transmitters over a city area)

That's a programming issue. The timer is off by default and must be
enabled and set for a specific number of seconds. 60 seconds is the
typical timeout.

Digital radio comes in many flavors. One of the big advantages of
digital is that the repeater and channel can handle more than one
transmission at a time (either by TDM or FDM). Therefore a stuck
digital transmitter does not timeout or disable the repeater. In
addition, many such radios are full duplex, which allows the
dispatcher or comm shop to remotely disable the transmitter and yell
at the user. Whether the PSAP is setup and trained to do this is
debatable.

>Police used mobile transceivers in the cars on VHF and portables on UHF
>so it usually was possible to alert the users on the other channel and
>hope the stuck PTT key was found that way, but on major events like
>queen's day it often happened that the portables channel was jammed for
>half an hour or so before the culprit was found.

Yep. Simply identifying the stuck transmitter is often insufficient.
I've heard stuck transmitters in vehicles rolling down the freeway for
an hour with a stuck transmitter. It was obvious who it was but

nothing short of an RF seeking missile was going to get their attention. In one case, someone noticed that they were listening to specific local radio station. The dispatcher called the radio station and had them make a special announcement to the driver to unstick the transmitter. It worked, instantly.

>Of course the equipment was aging by that time, it probably was from
>the eighties. Now they are all on TETRA and AFAIK that system allows
>the operator to just tune out stuck transmitters or devices that fell
>into wrong hands.

Yep. Nice feature. In the US, the high end radios are P25. Various other narrow band solutions exist, most of which have remote programming and remote deactivation. Despite all the government programs intended to provide interoperability, the manufacturers (and the FCC) have gone out of their way to introduce proprietary enhancements and introduce intentional incompatibility.

--
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Skype: JeffLiebermann AE6KS 831-336-2558

2078. Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-23 17:24:46 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <almarsoft.3893213331537950997@news.eternal-september.org>
Source record: 4029

Wonder how efficient a 80 meter jacket would be :)

http://www.bbc.co.uk/news/technology-14630656

2079. Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-23 22:43:45 UTC
From: "Helmut Wabnig"
Message-ID: <9ta8575dsatve64bhcpgusr1evf3qr30nd@4ax.com>
Source record: 4030

Why I cannot get rid of that antenna I dunno,
all started because I could not get the PVC tubing which the many
internet sites propose. The plumber shops where I live can only supply
heavy massive material suited as killing weapon in the hands of a
desperate fox hunter.

So I had to look for an alternative design and that lead me
to the aluminium boom with the movable slider.

The most exciting discovery during the work was
that every boom has two ends.
You correct me if I am wrong.

http://img839.imageshack.us/img839/1452/tapemeasurefoxhuntyagi.pdf

Regards,
w.

2080. DOOKUDU MOVIE STILLS & HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-24 09:41:34 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <066f17e1-de7a-433c-bacc-c966f9507ec6@u6g2000prc.googlegroups.com>
Source record: 4031

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http://southactresstou.blogspot.com/2011/07/katrina-kaif-wallpapers.html
DOOKUDU LATEST MOVIE STILLS
http://southactresstou.blogspot.com/2011/08/dookudu-movie-stills.html
KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
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http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
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http://hotactress-kalyani.blogspot.com/2011/08/tapsee-hot.html
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DEEPIKA PADUKONE IN DUM MARO DUM MOVIE
http://allyouwants.blogspot.com/2011/08/deepika-in-dum-maro-dum.html
PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html

PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

2081. HOT ACTRESS & DOOKUDU MOVIE STILLS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-24 15:09:27 UTC
From: SRAVANTHI LOVE <sravanthi.sravya24@gmail.com>
Message-ID: <2f4c7d13-350d-4b89-b20c-43ff94295508@x21g2000prd.googlegroups.com>
Source record: 4032

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KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
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PRANITHA LATEST BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/06/about-pranitha-praneetha-is-beautiful.html

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NAMITHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/namitha-hot-photos.html

2082. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-24 21:38:39 UTC
From: "Stuart Longland (VK4MSL)" <me@vk4msl.yi.org>
Message-ID: <e14f4a4c-b457-4185-93a6-3d4044e414db@e34g2000prn.googlegroups.com>
Source record: 4033

On Aug 24, 3:24 am, Wayne <mygarbage...@verizon.net> wrote:
> Wonder how efficient a 80 meter jacket would be :)
>
> http://www.bbc.co.uk/news/technology-14630656

Hmm, cue someone yelling "Yo mamma's so fat the antenna in her pants
is resonant on the 2200 metre band!"

I could see this antenna concept working for UHF and above.
Especially if they could make the other components "sewn in". i.e.
perhaps a hooded top or cap with Bluetooth headset embedded. More
likely such designs would be used to provide a level of shielding from
the wearer, so I suspect any such antenna would behave like a typical
patch antenna, with a radiation pattern being away from the body.

Even then though, it'd probably be a bit gimmicky.

This got a mention in the WIA news service a few weeks ago:

THE QNEWS WORK BENCH - the nuts and volts report -
(Measure twice - Cut once!)

BAE Systems tests T-shirt antennas

Wired reports that BAE Systems have teamed up with the UK's National
Physical
Laboratory to measure the efficiency of radiation emitted from
wearable
antennas embedded into T-shirts.

Wearable antennas could be a useful way of building communications
networks in
warzones or of monitoring and transmitting the health of the wearer.

Given that they are worn on the body, it is particularly important to
understand their performance. The human body absorbs electromagnetic
signals so
researchers were concerned that the signal could lose power if worn
too close.

Read the full Wired article at:
http://www.wired.co.uk/news/archive/2011-08/01/wearable-antennas

(southgate news)

http://www.wia.org.au/members/broadcast/wianews/display.php?file_id=wianews-2011-08-07

2083. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-24 22:18:12 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5578a4$0$12496$bd467cd0@news.dslextreme.com>
Source record: 4034

Stuart Longland (VK4MSL) wrote:

> On Aug 24, 3:24ï¿½am, Wayne <mygarbage...@verizon.net> wrote:
>> Wonder how efficient a 80 meter jacket would be :)
>>
>> http://www.bbc.co.uk/news/technology-14630656
>
> Hmm, cue someone yelling "Yo mamma's so fat the antenna in her pants
> is resonant on the 2200 metre band!"
>
> I could see this antenna concept working for UHF and above.
> Especially if they could make the other components "sewn in". i.e.
> perhaps a hooded top or cap with Bluetooth headset embedded. More
> likely such designs would be used to provide a level of shielding from
> the wearer, so I suspect any such antenna would behave like a typical
> patch antenna, with a radiation pattern being away from the body.
>
> Even then though, it'd probably be a bit gimmicky.
>
> This got a mention in the WIA news service a few weeks ago:
>
> THE QNEWS WORK BENCH - the nuts and volts report -
> (Measure twice - Cut once!)
>
> BAE Systems tests T-shirt antennas
>
> Wired reports that BAE Systems have teamed up with the UK's National
> Physical
> Laboratory to measure the efficiency of radiation emitted from
> wearable
> antennas embedded into T-shirts.
>
> Wearable antennas could be a useful way of building communications
> networks in
> warzones or of monitoring and transmitting the health of the wearer.
>
> Given that they are worn on the body, it is particularly important to
> understand their performance. The human body absorbs electromagnetic
> signals so
> researchers were concerned that the signal could lose power if worn
> too close.
>
> Read the full Wired article at:

> http://www.wired.co.uk/news/archive/2011-08/01/wearable-antennas
>
> (southgate news)
>
> http://www.wia.org.au/members/broadcast/wianews/display.php?file_id=wianews-2011-08-07

Is this safe? I'm not allowed to exceed so many mW/meter at several
feet. I guess it depends how the current is distributed.

2084. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-24 23:27:00 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j341c3$84r$1@news.jpl.nasa.gov>
Source record: 4035

On 8/24/2011 3:18 PM, dave wrote:
> Stuart Longland (VK4MSL) wrote:
>
>> On Aug 24, 3:24 am, Wayne<mygarbage...@verizon.net> wrote:
>>> Wonder how efficient a 80 meter jacket would be :)
>>>
>>> http://www.bbc.co.uk/news/technology-14630656
>>
>> Hmm, cue someone yelling "Yo mamma's so fat the antenna in her pants
>> is resonant on the 2200 metre band!"
>>
>> I could see this antenna concept working for UHF and above.
>> Especially if they could make the other components "sewn in". i.e.
>> perhaps a hooded top or cap with Bluetooth headset embedded. More
>> likely such designs would be used to provide a level of shielding from
>>
>> Wired reports that BAE Systems have teamed up with the UK's National
>> Physical
>> Laboratory to measure the efficiency of radiation emitted from
>> wearable
>> antennas embedded into T-shirts.

> Is this safe? I'm not allowed to exceed so many mW/meter at several
> feet. I guess it depends how the current is distributed.

This concept has been around for at least 10 years, maybe more.

As you note, meeting the RF exposure limit is one of the challenges. However, spreading it out helps. the typical limit is somewhere around a few milliwatts/sq cm. So say you wanted to radiate 10 watts. If you can spread the antenna out over 0.1 square meter, then you're at 10mW/sq cm, and by the time you add some shielding and/or consider the duty cycle, you can stay below the limit.

(hey, better than putting an antenna 10cm long radiating 2 Watts next to your head, eh?)

Figuring out how to control the pattern is another.

One scheme (becoming more practical) is to make a phased array of sorts, with distributed switches throughout the fabric to turn segments on or off or change L/C loading.

Hams, at least in the US, tend to ignore all the rules about RF exposure (notwithstanding it's on the test, etc.). You see pictures of whip or

loop antennas clamped to picnic tables next to the operator or mag mount antennas stuck to the top of a "go box portable station" with a 100W rig.

yes, they're probably meeting the limit, once you take into account the duty cycle, etc., but I'll bet less than 0.1% of them have actually done the analysis to prove it. The typical response is "I've been doing this for years and I've never noticed any problem"

Not to mention that the safe harbor "assumed safe" limits only apply with "single transmitter".. and that's not just ham transmitters, so the cellphone on your belt qualifies as the second transmitter triggering the need to do the analysis.

So, I'm waiting for the QST article with the guy having a backpack SGC500 power cube driving their 20m wearable antenna.

2085. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-25 00:05:46 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <klg5q.17241$2k4.7797@newsfe19.iad>
Source record: 4036

You can always get the XYL to wear it, and carry the rig and batteries too!
You will be busy enough holding the mike, talking, and walking at the same
time!

Irv VE6BP

"Wayne" <mygarbagecan@verizon.net> wrote in message
news:almarsoft.38932133315379509 97@news.eternal-september.org...
> Wonder how efficient a 80 meter jacket would be :)
>
> http://www.bbc.co.uk/news/technology-14630656
>

2086. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-25 00:25:11 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j344pqjqs1@dont-email.me>
Source record: 4037

"dave" wrote in message
news:4e5578a4$0$12496$bd467cd0@news.dslextreme.com...

Stuart Longland (VK4MSL) wrote:

> On Aug 24, 3:24 am, Wayne <mygarbage...@verizon.net> wrote:
>> Wonder how efficient a 80 meter jacket would be :)
>>
>> http://www.bbc.co.uk/news/technology-14630656
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> is resonant on the 2200 metre band!"
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> Especially if they could make the other components "sewn in". i.e.
> perhaps a hooded top or cap with Bluetooth headset embedded. More
> likely such designs would be used to provide a level of shielding from
> the wearer, so I suspect any such antenna would behave like a typical
> patch antenna, with a radiation pattern being away from the body.
>
> Even then though, it'd probably be a bit gimmicky.
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> This got a mention in the WIA news service a few weeks ago:
>
> THE QNEWS WORK BENCH - the nuts and volts report -
> (Measure twice - Cut once!)
>
> BAE Systems tests T-shirt antennas
>
> Wired reports that BAE Systems have teamed up with the UK's National
> Physical
> Laboratory to measure the efficiency of radiation emitted from
> wearable
> antennas embedded into T-shirts.
>
> Wearable antennas could be a useful way of building communications
> networks in
> warzones or of monitoring and transmitting the health of the wearer.
>
> Given that they are worn on the body, it is particularly important to
> understand their performance. The human body absorbs electromagnetic
> signals so
> researchers were concerned that the signal could lose power if worn

> too close.
>
> Read the full Wired article at:
> http://www.wired.co.uk/news/archive/2011-08/01/wearable-antennas
>
> (southgate news)
>
> http://www.wia.org.au/members/broadcast/wianews/display.php?file_id=wianews-2011-08-07

Is this safe? I'm not allowed to exceed so many mW/meter at several
feet. I guess it depends how the current is distributed.
****
-
My thoughts immediately were that with all the hype about cellphones causing
brain tumors, sterility, and perhaps herpes....that it is surprising that
anyone would be proposing wearable antennas.

However, these antennas have been around for a few years, in applications
such as "black" projects.

2087. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-25 00:48:35 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3oigi8-3rh.ln1@mail.specsol.com>
Source record: 4038

Wayne <mygarbagecan@verizon.net> wrote:
>
>
> "dave" wrote in message
> news:4e5578a4$0$12496$bd467cd0@news.dslextreme.com...
>
> Stuart Longland (VK4MSL) wrote:
>
>> On Aug 24, 3:24 am, Wayne <mygarbage...@verizon.net> wrote:
>>> Wonder how efficient a 80 meter jacket would be :)
>>>
>>> http://www.bbc.co.uk/news/technology-14630656
>>
>> Hmm, cue someone yelling "Yo mamma's so fat the antenna in her pants
>> is resonant on the 2200 metre band!"
>>
>> I could see this antenna concept working for UHF and above.
>> Especially if they could make the other components "sewn in". i.e.
>> perhaps a hooded top or cap with Bluetooth headset embedded. More
>> likely such designs would be used to provide a level of shielding from
>> the wearer, so I suspect any such antenna would behave like a typical
>> patch antenna, with a radiation pattern being away from the body.
>>
>> Even then though, it'd probably be a bit gimmicky.
>>
>> This got a mention in the WIA news service a few weeks ago:
>>
>> THE QNEWS WORK BENCH - the nuts and volts report -
>> (Measure twice - Cut once!)
>>
>> BAE Systems tests T-shirt antennas
>>
>> Wired reports that BAE Systems have teamed up with the UK's National
>> Physical
>> Laboratory to measure the efficiency of radiation emitted from
>> wearable
>> antennas embedded into T-shirts.
>>
>> Wearable antennas could be a useful way of building communications
>> networks in
>> warzones or of monitoring and transmitting the health of the wearer.
>>
>> Given that they are worn on the body, it is particularly important to

>> understand their performance. The human body absorbs electromagnetic
>> signals so
>> researchers were concerned that the signal could lose power if worn
>> too close.
>>
>> Read the full Wired article at:
>> http://www.wired.co.uk/news/archive/2011-08/01/wearable-antennas
>>
>> (southgate news)
>>
>> http://www.wia.org.au/members/broadcast/wianews/display.php?file_id=wianews-2011-08-07
>
> Is this safe? I'm not allowed to exceed so many mW/meter at several
> feet. I guess it depends how the current is distributed.
> **********
> -
> My thoughts immediately were that with all the hype about cellphones causing
> brain tumors, sterility, and perhaps herpes....that it is surprising that
> anyone would be proposing wearable antennas.
>
> However, these antennas have been around for a few years, in applications
> such as "black" projects.

It will never take off for the general public for the simple reason that
what people wear is dictated by fashion, not cell phone reception.

The only place you will ever see such is in applications like military,
police, fire, etc. where having communications (other than cell) is part
of the job.

--
Jim Pennino

Remove .spam.sux to reply.

2088. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-25 03:04:24 UTC
From: Sal <sobars@aol.com>
Message-ID: <j34e19$1hv$1@dont-email.me>
Source record: 4039

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:klg5q.17241$2k4.7797@newsfe19.iad...
> You can always get the XYL to wear it, and carry the rig and batteries
> too!
> You will be busy enough holding the mike, talking, and walking at the same
> time!
>
> Irv VE6BP

She should like that. I'm usually going off somewhere, then running into
her disapproval when I return. It'll keep me close.

"Sal"

2089. HOT SEXY VIDEOS AND ROMANTIC BEAUTIFUL PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-25 13:59:00 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <c9887a00-b8e0-40d3-8fbb-5f361f1f5203@r40g2000prf.googlegroups.com>
Source record: 4040

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

HOT VIDEOS

massage hot videos
http://hotvideosonlyx.blogspot.com/2010/09/massage-hot-videos.html
romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
hollywood hot
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot.html
bollywood hot kiss
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bollywood hot videos
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tollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/tollywood-hot-kiss.html

ALL INTERVIEW QUESTIONS

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dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2090. Re: Solution to your antenna real estate problems-sew antennas in your clothes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-25 18:36:33 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j364nhpks1@news.jpl.nasa.gov>
Source record: 4041

On 8/24/2011 5:25 PM, Wayne wrote:
>

> Is this safe? I'm not allowed to exceed so many mW/meter at several
> feet. I guess it depends how the current is distributed.
> **********
> -
> My thoughts immediately were that with all the hype about cellphones
> causing brain tumors, sterility, and perhaps herpes....that it is
> surprising that anyone would be proposing wearable antennas.
>
> However, these antennas have been around for a few years, in
> applications such as "black" projects.

People in those situations are paid to take some amount of risk (sort of like working as a firefighter or nuclear worker)

2091. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 00:33:47 UTC
From: BillyBobMarley <whax44@gmail.com>
Message-ID: <4c7171cf-2df9-4d40-b933-0a4a104157fe@d25g2000yqh.googlegroups.com>
Source record: 4042

On Aug 6, 6:06 pm, John S <soph...@invalid.org> wrote:
> On 8/6/2011 5:01 PM, Owen Duffy wrote:
>
>
>
>
>
>
>
>
>
>
> > Jim Higgins<inva...@invalid.invalid> wrote in
> >news:6qmq37hpufb1j8he98131hfii5i00hejkm@4ax.com:
>
> >> Does anyone have a MFJ-868 SWR/Wattmeter?
>
> > MFJ claims that some of its products indicate PEP on SSB telephony, and
> > some of the claims are plainly fraud.
>
> > In my experience, if the instrument does not use an active 'sample and
> > hold' amplifier, it does not work adequately.
>
> > In the MFJ949E tuner, the PCB has provision for a single transistor
> > amplifier, which if fitted, works passably... but they do not populate
> > the board with the 20c worth of parts needed.
>
> > The good news is that the MFJ868 does have an active PEP amplifier, it
> > looks a similar circuit to that in my AL80B which does work quite well.
> > I have not checked the circuit in detail, nor the time constants
> > involved, but this has a chance of working and working well.
>
> >> Is it really a true peak reading meter?
>
> > Well, of the MFJ949E, MFJ says "Lets you easily read SWR, true peak
> > forward and average reflected power simultaneously on 300 Watt or 30
> > Watt ranges", and let me assure you that their "true peak forward" is a
> > fraud... so this claim questions MFJ's credibility.
>
> > Don't trust any advertising claim with the word "true" in it.
>
> > BTW, the reflected meter in the '949E does not read average power of SSB
> > telephony either, both meters can read the average power of an
> > unmodulated wave.
>

> > Sellers make extravagant claims to a tame market that mostly doesn't
> > understand the technical side.
>
> >> Any other comments about it?
>
> > None...
>
> > Owen
>
> Excellent information, Owen. Thank you.
>
> John S

MFJ = Mighty Fine Junk

2092. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 02:40:29 UTC
From: tom <news4792@taring.org>
Message-ID: <4e59aa99$0$79796$8046368a@newsreader.iphouse.net>
Source record: 4043

On 8/27/2011 7:33 PM, BillyBobMarley wrote:
>
> MFJ = Mighty Fine Junk

If this is your opinion you can't evaluate hardware worth bleep.

The majority of what they sell does exactly what it's advertised to do.
You have to read the specs. And read the reviews carefully because
the hams who post that can't make the items work are often just ignorant
or incompetent.

It is not the best available, but it is often good enough.

tom
K0TAR

2093. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 02:55:48 UTC
From: dave <dave@dave.dave>
Message-ID: <4e59ae33$0$12451$bd467cd0@news.dslextreme.com>
Source record: 4044

tom wrote:

> On 8/27/2011 7:33 PM, BillyBobMarley wrote:
>>
>> MFJ = Mighty Fine Junk
>
> If this is your opinion you can't evaluate hardware worth bleep.
>
> The majority of what they sell does exactly what it's advertised to do.
> You have to read the specs. And read the reviews carefully because
> the hams who post that can't make the items work are often just ignorant
> or incompetent.
>
> It is not the best available, but it is often good enough.
>
> tom
> K0TAR

You can call them up and complain directly to the designers. Try doing
that with Rohde and Scrwarz.

2094. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 03:05:40 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j3cba5rro1@dont-email.me>
Source record: 4045

On 8/27/2011 7:33 PM, BillyBobMarley wrote:

> MFJ = Mighty Fine Junk

Right, now start with the rest of the memes...

Rat Shack, ePay etc.

Until I see you selling the same products as MFJ,
at a higher quality and lower price, I don't wanna hear it.

Jeff

--
"Everything from Crackers to Coffins"

2095. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 04:22:32 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ahfj579fbo3t2jpecp57dohlhvd024dgu6@4ax.com>
Source record: 4046

On Sat, 27 Aug 2011 21:40:29 -0500, tom <news4792@taring.org> wrote:

>The majority of what they sell does exactly what it's advertised to do.
> You have to read the specs.

Generally true. However, I spent some time modeling the MFJ-1800
2.4GHz antenna and came the conclusion that it's not even close to 50
ohms and more like 300 ohms. I guess they forgot to include a balun:
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1800>
<http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
While one screwup is not sufficient to claim that the entire product
line is lacking, it does make me very suspicious and wary.

>And read the reviews carefully because
>the hams who post that can't make the items work are often just ignorant
>or incompetent.

True. Everyone that disagrees with me is automatically judged to be
incompetent, ignorant, or both.

MFJ-868 shows 21 reviews, most of them positive.
<http://www.eham.net/reviews/detail/6459>
The ones with critical reviews were either failures of some manner, or
what I attribute to calibration issues. Looking at the schematic at:
<http://www.mfjenterprises.com/pdffiles/MFJ-868.pdf>
methinks it's "good enough". I'm not thrilled by the design, but it
does have an integrating RC networks, with a 2 second time constant,
which would make it peak reading.

QST compares various wattmeters:
<http://www.palstar.com/qstWM150.pdf>
Unfortunately, the MJF-868 is not reviewed, but the article might
offer some clues as to what to look for in a wattmeter.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2096. SOUTH INDIAN HOT ACTRESS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 06:50:07 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <a927d60e-9660-40f1-866b-ee0b528573da@r40g2000prf.googlegroups.com>
Source record: 4047

LATEST HOT TAPSEE KISSING STILLS
http://southactresstou.blogspot.com/2011/06/tapsee.html
KAJAL AGARWAL ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/05/kajal-agarwal.html
TAMANNA BEAUTIFUL PHOTOS
http://southactresstou.blogspot.com/2011/05/tamanna.html
ANUSHKA SHETTY HOT SAREE STILLS
http://southactresstou.blogspot.com/2011/06/anushka-shetty.html
SNEHA RARE PHOTOS
http://southactresstou.blogspot.com/2011/05/sneha.html
NAMITHA HOT NAVEL SHOW
http://southactresstou.blogspot.com/2011/05/namitha.html
ILIYANA HOT WALLPAPERS
http://southactresstou.blogspot.com/2011/05/iliyana.html
PRIYAMANI LATEST SPICY PHOTOS
http://southactresstou.blogspot.com/2011/05/priyamani.html

FOR ONLY HOT GUYS SEE THIS
TOP 20 HOT ACTRESS PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/hot-actrsess.html
KAJAL AGARWAL LATEST HOT
http://hotactress-kalyani.blogspot.com/2011/08/kajal-agarwal-hot-photos.html
LATEST AMISHA PATEL HOT PICS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TAPSEE DIFFERENT STILLS
http://hotactress-kalyani.blogspot.com/2011/08/tapsee-hot.html
PRIYAMANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/priyamani-hot.html
ARTHI CHABRIA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/aarti-chabria-hot.html
DIYA MIRZA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/diya-mirza-hot.html
KATRINA KAIF HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/katrina-kaif-hot.html
DEEPIKA PADUKONE HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/deepika-padukone-hot.html
NAMITHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/namitha-hot-photos.html

2097. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 12:31:29 UTC
From: BillyBobMarley <whax44@gmail.com>
Message-ID: <712c8e31-3f19-4d7a-8848-baddaf4378db@dl2g2000vbb.googlegroups.com>
Source record: 4048

On Aug 27, 10:40 pm, tom <news4...@taring.org> wrote:
> On 8/27/2011 7:33 PM, BillyBobMarley wrote:
>
>
>
> > MFJ = Mighty Fine Junk
>
> If this is your opinion you can't evaluate hardware worth bleep.

How the F&*&* would you know?

>
> The majority of what they sell does exactly what it's advertised to do.

To a degree ,granted.

> You have to read the specs. And read the reviews carefully because
> the hams who post that can't make the items work are often just ignorant
> or incompetent.

That's a pretty harsh statement there pal.I bought and used one of the
antenna tuners the proclaimed as "up to 300 watts" and the friggin'
4:1 balun blew out after 2 days of usage.I bought the contraption cuz
I didn't have the time or parts to build a really good one myself at
the time.
You really want a decent tuner do yourself a favor and take the time
and build one.Just google the K1JJ super tuner ,you'll thank yourself
and be a lot less lighter in the wallet for it.

>
> It is not the best available, but it is often good enough.

What a sales pitch.

>
> tom
> K0TAR

2098. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 14:14:06 UTC
From: Renee
Message-ID: <p2hk57p1ksuo8sh0ogf8cuumhop9uc6e2t@4ax.com>
Source record: 4049

On Sat, 27 Aug 2011 21:22:32 -0700, Jeff Liebermann <jeffl@cruzio.com> wrote:

>On Sat, 27 Aug 2011 21:40:29 -0500, tom <news4792@taring.org> wrote:
>
>>The majority of what they sell does exactly what it's advertised to do.
>> You have to read the specs.
>
>Generally true. However, I spent some time modeling the MFJ-1800
>2.4GHz antenna and came the conclusion that it's not even close to 50
>ohms and more like 300 ohms. I guess they forgot to include a balun:
><http://www.mfjenterprises.com/Product.php?productid=MFJ-1800>
><http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
>While one screwup is not sufficient to claim that the entire product
>line is lacking, it does make me very suspicious and wary.

I'm curious, did you do any measurement and testing with an analyzer, etc., or are all the figures simply calculated estimates?

Has anyone confirmed what the piece is that connects the driven element with the coax connector that looks to be a short piece of coax covered in heat shrink? Has anything been found or measured hiding under the heat shrink?

I realize we can all assume the antenna impedance is 50 ohms, but is it actually stated in any of the specifications from MFJ? I didn't see any mention of impedance specification at all for this antenna, but I could only find information on the web page at the link you provided as well as in the pdf file of the instructions for the MFJ-1800. The instructions are rather sparse.

Thanks for taking the time to provide details.

BTW, Irene's knocking at the door!

73, Renee

2099. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 17:45:40 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j3durq$c40g$1@tr22n12.aset.psu.edu>
Source record: 4050

On 8/28/2011 8:31 AM, BillyBobMarley wrote:

I've bought MFJ - actually had good luck. Only real problem is that my
259 antenna analyzer went dead with about a week to go in the warranty.

They replaced it free. New one, not refurbed, I didn't have to get the
old one repaired.

The nerve of that awful company!

you wrote:

> That's a pretty harsh statement there pal.I bought and used one of the
> antenna tuners the proclaimed as "up to 300 watts" and the friggin'
> 4:1 balun blew out after 2 days of usage.I bought the contraption cuz
> I didn't have the time or parts to build a really good one myself at
> the time.

So that means every company that makes any product that has a problem
after two days is making junk? That's everyone BTW.

My second analyzer hasn't had a problem at all.

I've a 949 tuner - FB

I have a 993 auto tuner - never had a problem with it.

Now it is true that MFJ in general does not have the build quality of
some of the "better" units. It also doesn't cost anywhere near as much.
And their return policy is more generous than most.

And what to we get for this? I've put my analyzer up against some pretty
expensive units, and they all have similar problems with overload. And
given the price difference, I wouldn't be able to afford the more
expensive ones. So is it better to buy the "Mighty fine junk" or to do
without?

They actually perform a service to the amateur community. If you're too
good for MFJ don't buy their stuff. But you might have the grace to not
lord it over us lesser beings.

- Mike N3LI -

2100. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 18:33:10 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <mu0l57dp4fagt7d7ioottiomvufr8o2pv0@4ax.com>
Source record: 3901

On Sun, 28 Aug 2011 10:14:06 -0400, Renee wrote:

>On Sat, 27 Aug 2011 21:22:32 -0700, Jeff Liebermann <jeffl@cruzio.com> wrote:
>
>>On Sat, 27 Aug 2011 21:40:29 -0500, tom <news4792@taring.org> wrote:
>>
>>>The majority of what they sell does exactly what it's advertised to do.
>>> You have to read the specs.
>>
>>Generally true. However, I spent some time modeling the MFJ-1800
>>2.4GHz antenna and came the conclusion that it's not even close to 50
>>ohms and more like 300 ohms. I guess they forgot to include a balun:
>><http://www.mfjenterprises.com/Product.php?productid=MFJ-1800>
>><http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
>>While one screwup is not sufficient to claim that the entire product
>>line is lacking, it does make me very suspicious and wary.

>I'm curious, did you do any measurement and testing with an analyzer, etc., or
>are all the figures simply calculated estimates?

There are no affordable "analyzers" that work at 2.4Ghz. I also have
not owned, or plan to own an MFJ-1800 antenna. The physical
measurements were done by a friend that owns this antenna and was
wondering why it didn't provide anywhere near the gain promised (as
compared to a commercial panel antenna).

Incidentally, I recently purchased a pair of totally misdesigned
2.4Ghz yagi's on eBay for about $8/ea.
<http://802.11junk.com/jeffl/crud/wi-fi-yagi-that-sucks.jpg>
Note the crude driven element, exposed coax conductors, and lack of a
balun. What happened was that this was a cheap clone of another
similar antenna, which did provide all the required matching
circuitry. This vendor decided it was too much trouble to copy the
matching network and balun, so he just left it out. It has more gain
to the sides of the yagi, than in front.

>Has anyone confirmed what the piece is that connects the driven element with the
>coax connector that looks to be a short piece of coax covered in heat shrink?
>Has anything been found or measured hiding under the heat shrink?

There's a ferrite bead under the shrink tube. If you can find a
ferrite material that actually works at 2.4GHz, it might pretend to do
something useful. However, no way is it going to provide a 4:1
impedance transformation.

>I realize we can all assume the antenna impedance is 50 ohms, but is it actually
>stated in any of the specifications from MFJ? I didn't see any mention of
>impedance specification at all for this antenna, but I could only find
>information on the web page at the link you provided as well as in the pdf file
>of the instructions for the MFJ-1800. The instructions are rather sparse.

Good point. One can assume that if it uses a 50 ohm coax pigtail, a
50 ohm N connector, and is designed to connect to a wireless device
that presents 50 ohms, it just might need to be a 50 ohm antenna.

>Thanks for taking the time to provide details.

Yeah, I've done dumber things. There were several long discussion on
the topic in various newsgroups. The discussions inspired my burning
several evenings modeling the antenna:
<http://groups.google.com/group/alt.internet.wireless/browse_thread/thread/c891c0060ec9225
7/>
<http://groups.google.com/group/rec.radio.amateur.antenna/browse_thread/thread/e8990622c76
c70b1/>
<http://groups.google.com/group/alt.internet.wireless/browse_thread/thread/57bb73ab886901b
0/>

>BTW, Irene's knocking at the door!

Oh-oh.

>73, Renee

--
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Skype: JeffLiebermann AE6KS 831-336-2558

2101. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 18:58:18 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <7d3l579hd2umesbc55tjkiqjcvh89lii3e@4ax.com>
Source record: 3902

On Sun, 28 Aug 2011 13:45:40 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>I've bought MFJ - actually had good luck. Only real problem is that my
>259 antenna analyzer went dead with about a week to go in the warranty.

The Avago HSMS-2820 detector diodes in the MFJ-259 tend to blow up. It
apparently doesn't take much RF to do the damage. Suggest you buy
some spares from Digikey (516-1817-1-ND) or Mouser. Ten for about
$0.60/ea.

--
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Skype: JeffLiebermann AE6KS 831-336-2558

2102. Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 20:09:00 UTC
From: "Helmut Wabnig"
Message-ID: <dn6l5759fk49bigjvgtv60t81aasng3qb0@4ax.com>
Source record: 3903

(repost updated)
All started because I could not get the PVC tubing which the many
internet sites propose. The plumber shops where I live can only supply
heavy massive material suited as killing weapon in the hands of a
desperate fox transmitter hunter.

So I had to look for an alternative design and that lead me
to the aluminium boom with the movable slider.

With the PVC tubes it should be possible to make the middle "T"
moveable, or not? Would have to drill through the T with
a larger diameter wood-drill.
http://tinyurl.com/3vygo9f

I am here now:
https://sites.google.com/site/tapemeasureantenna/
This allows for future changes, updates and additions.

The old stuff is still there:
http://img839.imageshack.us/img839/1452/tapemeasurefoxhuntyagi.pdf

What's missing is a list of ready-to-build recipes.
Am still struggling with the tape-measure correction factors
for the antenna simulator (4nec2)
Anybody having already tried simulating tape measure antennas?

3 element Tape measure direction finding antennas are a bit larger
than their 2 element competitors like the MAY1000
http://www.rfparts.com/diamond/MAY1000.html
A simple two element ARDF antenna must be carefully adjusted
in element spacing, else it will be totally worthless. This often
applies to the portable HB9CV antennas from the junk box
which are being used off their design frequency.
I cannot imagine running through underbrush thicket with the MAY1000.
It will quickly fold into it's sales package size :-)

w.

Regards,
w.

2103. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 21:24:01 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <r5bl57t6kqpd5tcuoh51nibl7vcd911i6s@4ax.com>
Source record: 3904

On Sun, 28 Aug 2011 22:09:00 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>Am still struggling with the tape-measure correction factors
>for the antenna simulator (4nec2)
>Anybody having already tried simulating tape measure antennas?

Not tape measures, but I have done stamped sheet metal, which is
somewhat similar. See the plots at:
<http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
The NEC2 deck is under:
<http://802.11junk.com/jeffl/antennas/mfj1800/slides/mfj-1800.html>

The problem is that the common "wire" rod antenna elements aren't
close enough. So, I had to use the actual dimensions from the sheet
metal. You'll probably need to do the same, with the added
complication of including the arc in the cross section. It's not as
horrible as it might seem as all your elements are the same cross
section. Use the "Geometry Builder" program that comes with 4NEC2.

>I cannot imagine running through underbrush thicket with the MAY1000.
>It will quickly fold into it's sales package size :-)

Have you considered an inflatable version?

<http://www.scouting.org/filestore/jota/pdf/TURNER.pdf>
Hmmm.... they use a WB2HOL tape measure antenna.

--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2104. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 21:42:44 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5ab654$0$12497$bd467cd0@news.dslextreme.com>
Source record: 3905

BillyBobMarley wrote:

>> ï¿½ You have to read the specs. ï¿½And read the reviews carefully because
>> the hams who post that can't make the items work are often just ignorant
>> or incompetent.
>
> That's a pretty harsh statement there pal.I bought and used one of the
> antenna tuners the proclaimed as "up to 300 watts" and the friggin'
> 4:1 balun blew out after 2 days of usage.I bought the contraption cuz
> I didn't have the time or parts to build a really good one myself at
> the time.
> You really want a decent tuner do yourself a favor and take the time
> and build one.Just google the K1JJ super tuner ,you'll thank yourself
> and be a lot less lighter in the wallet for it.
>

Did you call the factory? They are very nice down to earth people.

2105. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 21:44:16 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5ab6af$0$12469$bd467cd0@news.dslextreme.com>
Source record: 3906

Jeff Liebermann wrote:

>
>>I'm curious, did you do any measurement and testing with an analyzer, etc., or
>>are all the figures simply calculated estimates?
>
> There are no affordable "analyzers" that work at 2.4Ghz. I also have
> not owned, or plan to own an MFJ-1800 antenna. The physical
> measurements were done by a friend that owns this antenna and was
> wondering why it didn't provide anywhere near the gain promised (as
> compared to a commercial panel antenna).
>
> Incidentally, I recently purchased a pair of totally misdesigned
> 2.4Ghz yagi's on eBay for about $8/ea.
> <http://802.11junk.com/jeffl/crud/wi-fi-yagi-that-sucks.jpg>
> Note the crude driven element, exposed coax conductors, and lack of a
> balun. What happened was that this was a cheap clone of another
> similar antenna, which did provide all the required matching
> circuitry. This vendor decided it was too much trouble to copy the
> matching network and balun, so he just left it out. It has more gain
> to the sides of the yagi, than in front.
>

You can make a killer wifi antenna out of a tin can and an N connector
you know...

2106. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 21:49:15 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5ab7db$0$12517$bd467cd0@news.dslextreme.com>
Source record: 3907

Jeff Liebermann wrote:

> On Sun, 28 Aug 2011 13:45:40 -0400, Mike Coslo <mjc5@psu.edu> wrote:
>
>>I've bought MFJ - actually had good luck. Only real problem is that my
>>259 antenna analyzer went dead with about a week to go in the warranty.
>
> The Avago HSMS-2820 detector diodes in the MFJ-259 tend to blow up. It
> apparently doesn't take much RF to do the damage. Suggest you buy
> some spares from Digikey (516-1817-1-ND) or Mouser. Ten for about
> $0.60/ea.
>
>

They don't blow up, they burn up. Always keep the input grounded (I have a banana plug ground I use when storing my 259B) until you are ready to use it. Short the center conductor of the DUT to ground immediately before connecting to the 259B. Do not transmit from any nearby antennas.

2107. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 23:34:50 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <1fgl57hpgnl4qiee3rlkbnj4jmseek635m@4ax.com>
Source record: 3908

On 28 Aug 2011 21:44:16 GMT, dave <dave@dave.dave> wrote:

>You can make a killer wifi antenna out of a tin can and an N connector
>you know...

A tin can is too small. I think you mean a coffee can.
In my never humble opinion, the cantenna sucks, but works tolerably
well for illuminating a parabolic dish.

Here's a model of the common coffee can antenna.
<http://802.11junk.com/jeffl/antennas/coffee2400/>
Notice the boresight error caused by the off center probe feed. 9.8dBi
gain, but there's a problem with my model somewhere. The average gain
test shows 1.54 indicating that the calculated gain is 1.88dB too
optimistic. The real gain is more like 8dBi. I can do that with a
biquad.

The cantenna also has a problem with calculating the probe feed
length. Where do you measure to? Starting from the tip, do you
measure to where the insulation stops on the N connector? To the
metal sleeve around the insulation? To the N connector base? Or
perhaps to the tin can itself? The error is not trivial. 1/4 wave at
the band edges are 3.02cm and 3.12cm. Assuming you want to land
somewhere between these limits, the cut error is:
3.12cm - 3.02cm = 0.10cm = +/-0.5mm
That's also possibly one of the reasons the original designer used a
conical probe feed. More bandwidth means any error has a smaller
effect.

I won't mention that the bottom of the can is rarely flat, making that
distance also a bit tricky to get right. Never mind that there's way
to adjust anything other than the length of the wire probe and it's
bend angle.

About 3 years ago, I was blessed with a friend who built about 6
assorted cantennas, but had no reliable way to tune or test them. I
stupidly volunteered. Most of them were resonant at about 1.8GHz.
Chop, cut, hack, solder, and they're now on 2.4Ghz. Measuring the
gain, none of them came close to what was expected. My indoor antenna
test range leaves much to be desired, but my transfer standard antenna
is accurate to +/-0.5dB gain.

The reason that the cantenna is such a "killer" antenna is that
literally *ANY* external antenna is an improvement over the stock
chip, PIFA, or rubber ducky collinear antenna found in most Wi-Fi
contrivances. You can even build one incorrectly and it will work

better than the stock antenna. For your amusement, here's a proper
biquad:
<http://802.11junk.com/jeffl/antennas/Biquad/index.html>
and by the way far too many web pages suggest it should be built:
<http://802.11junk.com/jeffl/antennas/biquad-junk/index.html>
The good antenna has a 50 ohm coax feed between the reflector and the
bow tie. The loser has a pair of wires, at some unknown impedance, in
the same place. Amazingly, it has almost the same gain, despite the
high VSWR.

Killer antenna, my posterior...

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2108. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-28 23:52:07 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <pnkl579r1serdb5mj1lhkdf9tbone4tmo2@4ax.com>
Source record: 3909

On Sun, 28 Aug 2011 16:34:50 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>Here's a model of the common coffee can antenna.
><http://802.11junk.com/jeffl/antennas/coffee2400/>

Incidentally, I once scribbled a spreadsheet that allegedly generates
an NEC2 card for a cantenna, given the can dimensions.
<http://802.11junk.com/jeffl/rf-calc/Coffee-can05.xls>
In theory, you should be able to cut-n-paste the section in blue, save
it as filename.nec, and feed it to 4NEC2 as can feed. It was
originally intended for parabolic dish feeds, but can be used for a
stand alone wi-fi antenna. Unfortunately, it's not ready for prime
time and has some errors. It's been so long since I threw it
together, that I don't even remember what was broken. Caveat Emptor.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2109. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 00:46:24 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5ae160$0$12496$bd467cd0@news.dslextreme.com>
Source record: 3910

Jeff Liebermann wrote:

> On 28 Aug 2011 21:44:16 GMT, dave <dave@dave.dave> wrote:
>
>>You can make a killer wifi antenna out of a tin can and an N connector
>>you know...
>
> A tin can is too small. I think you mean a coffee can.
> In my never humble opinion, the cantenna sucks, but works tolerably
> well for illuminating a parabolic dish.
>
> Here's a model of the common coffee can antenna.
> <http://802.11junk.com/jeffl/antennas/coffee2400/>
> Notice the boresight error caused by the off center probe feed. 9.8dBi
> gain, but there's a problem with my model somewhere. The average gain
> test shows 1.54 indicating that the calculated gain is 1.88dB too
> optimistic. The real gain is more like 8dBi. I can do that with a
> biquad.
>
> The cantenna also has a problem with calculating the probe feed
> length. Where do you measure to? Starting from the tip, do you
> measure to where the insulation stops on the N connector? To the
> metal sleeve around the insulation? To the N connector base? Or
> perhaps to the tin can itself? The error is not trivial. 1/4 wave at
> the band edges are 3.02cm and 3.12cm. Assuming you want to land
> somewhere between these limits, the cut error is:
> 3.12cm - 3.02cm = 0.10cm = +/-0.5mm
> That's also possibly one of the reasons the original designer used a
> conical probe feed. More bandwidth means any error has a smaller
> effect.
>
> I won't mention that the bottom of the can is rarely flat, making that
> distance also a bit tricky to get right. Never mind that there's way
> to adjust anything other than the length of the wire probe and it's
> bend angle.
>
Somebody did your homework for you:

http://www.turnpoint.net/wireless/cantennahowto.html

2110. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 00:47:52 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5ae1b7$0$12511$bd467cd0@news.dslextreme.com>
Source record: 3911

Jeff Liebermann wrote:

> On Sun, 28 Aug 2011 16:34:50 -0700, Jeff Liebermann <jeffl@cruzio.com>
> wrote:
>
>>Here's a model of the common coffee can antenna.
>><http://802.11junk.com/jeffl/antennas/coffee2400/>
>
> Incidentally, I once scribbled a spreadsheet that allegedly generates
> an NEC2 card for a cantenna, given the can dimensions.
> <http://802.11junk.com/jeffl/rf-calc/Coffee-can05.xls>
> In theory, you should be able to cut-n-paste the section in blue, save
> it as filename.nec, and feed it to 4NEC2 as can feed. It was
> originally intended for parabolic dish feeds, but can be used for a
> stand alone wi-fi antenna. Unfortunately, it's not ready for prime
> time and has some errors. It's been so long since I threw it
> together, that I don't even remember what was broken. Caveat Emptor.
>

Apparently you did your own homework. I use the 3gstore near Chicago.
They have a wifi dxers message board.

2111. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 01:53:39 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <2lql575sd6r8d2g3kg1lm8q17v580jvh9n@4ax.com>
Source record: 3912

On 29 Aug 2011 00:46:24 GMT, dave <dave@dave.dave> wrote:

>Somebody did your homework for you:
>http://www.turnpoint.net/wireless/cantennahowto.html

Nope. That's on how to build a cantenna. What I'm doing is taking a given size can, and generating an NEC2 deck suitable for modeling the design. There's nothing on that web page about modeling. For that matter, there are no test results and no cool looking plots. You could build the cantenna according to the instructions, and never really know what you've got, or what to expect.

Incidentally, I like the various photos of testing the cantenna on a camera tripod. My guess is that the tripod is about 3ft off the ground. Quiz: What's the maximum distance you can go at 2.4Ghz with both ends 4ft off the ground, before the Fresnel Zone hits the ground?
<http://www.terabeam.com/support/calculations/fresnel-zone.php>
Plugging in various guess in the range, I get 0.025 miles or 132 ft.
Several of the antenna tests (can't find the link again) were longer.
Oh well.

--
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2112. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 01:55:10 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j3erhe$r43c$1@tr22n12.aset.psu.edu>
Source record: 3913

On 8/28/2011 2:58 PM, Jeff Liebermann wrote:
> On Sun, 28 Aug 2011 13:45:40 -0400, Mike Coslo<mjc5@psu.edu> wrote:
>
>> I've bought MFJ - actually had good luck. Only real problem is that my
>> 259 antenna analyzer went dead with about a week to go in the warranty.
>
> The Avago HSMS-2820 detector diodes in the MFJ-259 tend to blow up. It
> apparently doesn't take much RF to do the damage. Suggest you buy
> some spares from Digikey (516-1817-1-ND) or Mouser. Ten for about
> $0.60/ea.

Good tip, Jeff. One thing that would be cheap insurance and make for less units shipped back is a dummy load to put on the antenna socket. I made one up for cheap.

- 73 de Mike N3LI -

2113. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 02:23:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8ttl57hgr2r3ln6rd8tldb8311aksmvao0@4ax.com>
Source record: 3914

On Sun, 28 Aug 2011 18:53:39 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>You
>could build the cantenna according to the instructions, and never
>really know what you've got, or what to expect.

Looking at the bare can with probe feed, I would expect a horrible
launch characteristic at the lip without a flared end.

Perhaps some of your modeling suggests this.

73's
Richard Clark, KB7QHC

2114. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 04:24:17 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <tn2m57tacfgemqh3uuorvddr702t5ikrf3@4ax.com>
Source record: 3915

On Sun, 28 Aug 2011 19:23:01 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Sun, 28 Aug 2011 18:53:39 -0700, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>
>>You
>>could build the cantenna according to the instructions, and never
>>really know what you've got, or what to expect.

>Looking at the bare can with probe feed, I would expect a horrible
>launch characteristic at the lip without a flared end.
>
>Perhaps some of your modeling suggests this.

The model is at:
<http://802.11junk.com/jeffl/antennas/coffee2400/index.html>
Note the 5 degree boresight error at:
<http://802.11junk.com/jeffl/antennas/coffee2400/slides/horiz-01.html>
That's not too horrible considering the 65 degree -3dB beamwidth.

I've seen several antenna with proper launchers. Here's one:
<http://www.seattlewireless.net/CookieCantenna>
The funnel will add about 4-5dB of gain depending on size. That begs
the question whether it would be easier to just built a horn antenna
and be done with it. The horn has more gain, easier to build, flat
surface for easier connector mounting, tunable back end of waveguide,
and potentially more portable:
<http://www.wired.com/culture/lifestyle/multimedia/2004/08/64440>
<http://www.brest-wireless.net/gallery/AntenneCornet>
<http://www.seattlewireless.net/CardboardHorn>

Also, I forgot to mumble something about the N connector mounting
screws and nuts projecting into the waveguide. Not a good idea as
those will have some effect. The screw heads should be on the inside
of the can, with the nuts and uncut threads on the outside. It will
look horrible but it will work better. Copper pop-rivets would
probably be best.

--
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2115. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 05:55:22 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3f9j4ihg1@dont-email.me>
Source record: 3916

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:1fgl57hpgnl4qiee3rlkbnj4jmseek635m@4ax.com...
> On 28 Aug 2011 21:44:16 GMT, dave <dave@dave.dave> wrote:
>
>>You can make a killer wifi antenna out of a tin can and an N connector
>>you know...
>
> A tin can is too small. I think you mean a coffee can.
> In my never humble opinion, the cantenna sucks, but works tolerably
> well for illuminating a parabolic dish.

I have a 2.4 GHz TV downconverter built into a coffee can. It was
tough to get a good picture, so I made a horn for it, using hardware
cloth. The horn is about three feet long and about three feet across
at the open end. I never made any quantitative measurements of the
increased signal at Channel 3 (the nominal output) but the reduction
in snow was considerable.

2116. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 08:51:12 UTC
From: Clifford Heath <foo@bar.com>
Message-ID: <4ql6q.2336$EP3.535@newsfe05.iad>
Source record: 3917

On Sun, 28 Aug 2011 22:09:00 +0200, Helmut Wabnig wrote:
> All started because I could not get the PVC tubing which the many
> internet sites propose.

Hi. I foxhunt regularly with the Melbourne ARDF community,
and we have the design of 2m sniffer antennas down to a fine art.

The best material for the shaft is 12mm square or u-channel aluminium.

The common antenna element length and spacing recommended with the
tape-measure antenna is wrong - very wrong. For a start, the lengths
vary by too much (in the hope of a wider effective bandwidth), and
the reflector is too close to the driven, the director too far away.
This causes large rear side lobes, which makes sniffing incredibly
frustrating.

For effective sniffing, you *don't* want maximum F/B ratio, and you
don't want maximum gain - what you want is a cardioid pattern with
just one lobe - the front one. Anything else will give you a bum
steer.

The best pattern we've found so far is the VK3VT beam:
<http://www.vk3vt.net/VTbeam.html>. Most of the recent ones use a
gamma match instead of the one shown.

We build this using elements made up from 3mm fiberglass rod and
co-ax braid, covered by heatshrink. The element goes through a
short copper tube before the heatshrink goes on.

These elements are sufficiently stiff to keep their shape, but
whippy enough to run with through a tree.

Clifford Heath.

2117. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 14:29:58 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5ba266$0$12503$bd467cd0@news.dslextreme.com>
Source record: 3918

Mike Coslo wrote:

> On 8/28/2011 2:58 PM, Jeff Liebermann wrote:
>> On Sun, 28 Aug 2011 13:45:40 -0400, Mike Coslo<mjc5@psu.edu> wrote:
>>
>>> I've bought MFJ - actually had good luck. Only real problem is that my
>>> 259 antenna analyzer went dead with about a week to go in the warranty.
>>
>> The Avago HSMS-2820 detector diodes in the MFJ-259 tend to blow up. It
>> apparently doesn't take much RF to do the damage. Suggest you buy
>> some spares from Digikey (516-1817-1-ND) or Mouser. Ten for about
>> $0.60/ea.
>
>
> Good tip, Jeff. One thing that would be cheap insurance and make for
> less units shipped back is a dummy load to put on the antenna socket. I
> made one up for cheap.
>
> - 73 de Mike N3LI -

I just ground the center of the SO-239 with a common Pomona banana plug.
A 50 Ohm load isn't necessary.

2118. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 15:51:09 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <6obn5712u9jre9ir4ba77s28tpi8de02tm@4ax.com>
Source record: 3919

On Sun, 28 Aug 2011 21:55:10 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>On 8/28/2011 2:58 PM, Jeff Liebermann wrote:
>> On Sun, 28 Aug 2011 13:45:40 -0400, Mike Coslo<mjc5@psu.edu> wrote:
>>
>>> I've bought MFJ - actually had good luck. Only real problem is that my
>>> 259 antenna analyzer went dead with about a week to go in the warranty.
>>
>> The Avago HSMS-2820 detector diodes in the MFJ-259 tend to blow up. It
>> apparently doesn't take much RF to do the damage. Suggest you buy
>> some spares from Digikey (516-1817-1-ND) or Mouser. Ten for about
>> $0.60/ea.

>Good tip, Jeff. One thing that would be cheap insurance and make for
>less units shipped back is a dummy load to put on the antenna socket. I
>made one up for cheap.
> - 73 de Mike N3LI -

Dummy load or short, it doesn't matter. It's probably not RF that's
killing the diodes.

Schematic of the MFJ-259B at:
<http://www.dk3red.homepage.t-online.de/en/s8a.htm>
I took the liberty of somewhat cleaning up the RF input section at:
<http://802.11junk.com/jeffl/crud/MFJ-259B-RF-section.jpg>
Note that diodes D2 and D3 are directly connected to the center pin of
the RF connector. These are the two that usually blow up, not the
others. Oddly, I'm finding both blown, never a single diode. My
guess(tm) is that they're being killed by a blast of static
electricity, not RF.

Notice the lack of a high value bleeder resistor on the antenna
connector. This bleeder resistor is standard on anything connected to
an antenna that might build up a static charge. Every radio that I
designed has this resitor. It doesn't take much static electricity to
blow an unprotected diode. Just connect the MFJ-259b to an ungrounded
antenna in a wind on a low humidity day, or just touching the antenna
while sliding across a plastic car seat. When I replace the diodes,
I've been adding a 100Kohm resistor from the junction of D2/D3 to
ground, which hopefully will help. So far, no returns.

--
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2119. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-29 17:23:48 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3ghv5$d7k$1@news.jpl.nasa.gov>
Source record: 3920

On 8/28/2011 11:33 AM, Jeff Liebermann wrote:
> On Sun, 28 Aug 2011 10:14:06 -0400, Renee wrote:
>
>> On Sat, 27 Aug 2011 21:22:32 -0700, Jeff Liebermann<jeffl@cruzio.com> wrote:
>>
>>> On Sat, 27 Aug 2011 21:40:29 -0500, tom<news4792@taring.org> wrote:
>>>
>>>> The majority of what they sell does exactly what it's advertised to do.
>>>> You have to read the specs.
>>>
>>> Generally true. However, I spent some time modeling the MFJ-1800
>>> 2.4GHz antenna and came the conclusion that it's not even close to 50
>>> ohms and more like 300 ohms. I guess they forgot to include a balun:
>>> <http://www.mfjenterprises.com/Product.php?productid=MFJ-1800>
>>> <http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
>>> While one screwup is not sufficient to claim that the entire product
>>> line is lacking, it does make me very suspicious and wary.
>
>> I'm curious, did you do any measurement and testing with an analyzer, etc., or
>> are all the figures simply calculated estimates?
>
> There are no affordable "analyzers" that work at 2.4Ghz. I also have
> not owned, or plan to own an MFJ-1800 antenna. The physical
> measurements were done by a friend that owns this antenna and was
> wondering why it didn't provide anywhere near the gain promised (as
> compared to a commercial panel antenna).

Hmmm.. while you might not be able to buy an analyzer, that doesn't mean that you couldn't have done the measurement by other means. A power meter (perhaps an eval board for one of the analog devices parts)? Maybe even using a WiFi card as a field strength meter at a little distance away, and then using an adjustable stub tuner (e.g. microstripline on a PC board. (or one of those "check your microwave oven for leakage" meters from radio shack)

Sure, it's not as nice as that VNA from Anritsu or Agilent, but people have been making microwave impedance measurements for decades with pretty primitive gear.

Building a directional coupler in microstripline is a cookbook endeavor. An hour with some copper clad board and a razor blade would do. If you happen to have some copper foil tape around, it's even easier.

An impedance measuring system along the lines of the "3 meter" technique (where you have a known L or C in series) is a possibility.

Not to mention that there are a lot of folks on this list who DO have
access to suitable analyzers.

So Renee's question was pretty reasonable.

>
> Incidentally, I recently purchased a pair of totally misdesigned
> 2.4Ghz yagi's on eBay for about $8/ea.
> <http://802.11junk.com/jeffl/crud/wi-fi-yagi-that-sucks.jpg>
> Note the crude driven element, exposed coax conductors, and lack of a
> balun. What happened was that this was a cheap clone of another
> similar antenna, which did provide all the required matching
> circuitry. This vendor decided it was too much trouble to copy the
> matching network and balun, so he just left it out. It has more gain
> to the sides of the yagi, than in front.

Fascinating... especially since the matching network wouldn't normally
have any effect on the pattern. Balun/Choke having an effect, I could
see (coupling to the feedline screws up the pattern).

>
>> Has anyone confirmed what the piece is that connects the driven element with the
>> coax connector that looks to be a short piece of coax covered in heat shrink?
>> Has anything been found or measured hiding under the heat shrink?
>
> There's a ferrite bead under the shrink tube. If you can find a
> ferrite material that actually works at 2.4GHz, it might pretend to do
> something useful. However, no way is it going to provide a 4:1
> impedance transformation.

2.4 GHz is 12 cm wavelength

4-6cm of transmission line is a good fraction of a wavelength. How do
you know it's not 3/4 lambda of 75 or 92 ohm line, or something like
that. (1/4 wavelength of 75 ohms would transform 200 ohms to about 30
ohms, for instance)

I've worked with enough UHF and microwave antennas with weird funky
feedpoint things to not trust in first impressions. There could be all
sorts of parasitics that help the situation out, and they're tough to
model accurately (you're certainly not going to do it with NEC, for
instance.. I'd trust NEC for the feedpoint impedance without
matching/balun/stubs..)

Yeah, it's probably not a nice 1:1 match over the entire band, but then,
most antennas aren't. It just has to be "good enough" and in that
business, the loss in the feedline probably dominates anyway. Figure 3
dB of loss in the feedline, and you get a 6B improvement in return loss.

The model you have shows a beamwidth around 30 degrees (H) and 28
degrees (V).. that's a directivity around 16 dBi

4NEC2 is giving you 14dB gain.. that's moderately consistent, although 2
dB is something I'd want to figure why the difference. I'd want to

figure out why 2dB different, especially since you didn't put resistive
loading into your model, which, at 2.4GHz *will* make the match better

MFJ claims 15dBi, and that is also consistent with your model and the
back of the envelope from the pattern.

>
>> I realize we can all assume the antenna impedance is 50 ohms, but is it actually
>> stated in any of the specifications from MFJ? I didn't see any mention of
>> impedance specification at all for this antenna, but I could only find
>> information on the web page at the link you provided as well as in the pdf file
>> of the instructions for the MFJ-1800. The instructions are rather sparse.
>
> Good point. One can assume that if it uses a 50 ohm coax pigtail, a
> 50 ohm N connector, and is designed to connect to a wireless device
> that presents 50 ohms, it just might need to be a 50 ohm antenna.

Nope.. not if the feedline is a couple dB loss (which wouldn't be
unusual for a laptop pigtail using RG-174 or smaller).. All they really
care about in this kind of application is the directivity.

After all, how many ham antennas for HF have a PL-259/SO-239 "UHF"
connector on them. I wouldn't take the fact that it has a 50 ohm
connector as indicating anything other than it's a common connector that
people are likely to have mating connectors for.

75 ohm BNC, Ns, etc exist, but how many people use them on dipoles
(which have 72 ohm impedance)... nahh. they just use a 50 ohm cable, UHF
connectors, and are done with it.

If they used 75 ohm coax on this antenna, and it's close to a multiple
of 1/4 wavelength, then the match at the N connector is probably not a
lot worse than using 50 ohm coax on a dipole.

2120. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 00:50:01 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <pj7o57hhvkmdrp21nfan45lm57b9nd59gc@4ax.com>
Source record: 3921

On Mon, 29 Aug 2011 10:23:48 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>On 8/28/2011 11:33 AM, Jeff Liebermann wrote:
>> On Sun, 28 Aug 2011 10:14:06 -0400, Renee wrote:
>>> I'm curious, did you do any measurement and testing with an analyzer, etc., or
>>> are all the figures simply calculated estimates?
>>
>> There are no affordable "analyzers" that work at 2.4Ghz. I also have
>> not owned, or plan to own an MFJ-1800 antenna. The physical
>> measurements were done by a friend that owns this antenna and was
>> wondering why it didn't provide anywhere near the gain promised (as
>> compared to a commercial panel antenna).

>Hmmm.. while you might not be able to buy an analyzer, that doesn't mean
>that you couldn't have done the measurement by other means.

Well, not having the antenna prevented me from doing much. If I had
the antenna, I would have connected it to a home made reflection
coefficient bridge and my Wiltron 610D sweeper. I also have some
directional couplers, but all my detectors are currently blown.
<http://802.11junk.com/jeffl/pics/home/slides/BL-shop6.html>
(Right now, there's a chain saw torn apart on the bench). Either
bridge or coupler would have shown high VSWR for the antenna.

Incidentally, I don't consider it my job to supply test data for MFJ.
MFJ should run the tests and post both the procedures and test
results.

While it's a good thing to verify models with actual measurements, in
this case, just creating the model burned all my spare time for about
a week. I don't think I would have had time to do anything more than
a rough sanity check type of test.

>A power
>meter (perhaps an eval board for one of the analog devices parts)?
>Maybe even using a WiFi card as a field strength meter at a little
>distance away, and then using an adjustable stub tuner (e.g.
>microstripline on a PC board. (or one of those "check your microwave
>oven for leakage" meters from radio shack)

I have several microwave oven testers. They will barely detect RF
from an access point. Basically, they're just a diode detector, with
no RF gain. I wouldn't expect much from them:
<http://802.11junk.com/jeffl/pics/Microwave%20Leakage%20Detector/>
The detector diode is on the far left.

I do have an indoor antenna range of sorts. It's full of reflections,
but is good enough for measuring gain using a reference antenna. In
this case, I had a patch antenna and a biquad antenna tested in an
anechoic chamber and obtained fairly accurate gain curves. My guess
is that I can measure gain at 2.4Ghz to +/-2dB. Not great, but better
than guesswork.

>Sure, it's not as nice as that VNA from Anritsu or Agilent, but people
>have been making microwave impedance measurements for decades with
>pretty primitive gear.

I still have several slotted lines buried somewhere.

>Building a directional coupler in microstripline is a cookbook endeavor.
> An hour with some copper clad board and a razor blade would do. If
>you happen to have some copper foil tape around, it's even easier.

Yep, I've done that. On a good day, I'll get 20dB directivity, which
isn't so great.
<http://www.qsl.net/n9zia/24swr/index.html>
I prefer a reflection coefficient bridge, as in:
<http://pe2er.nl/wifiswr/>
I've built several of these. It won't tell you whether the antenna is
inductive or cazapitive, but will supply the VSWR (actually, the
reflection coefficient).

>An impedance measuring system along the lines of the "3 meter" technique
>(where you have a known L or C in series) is a possibility.

Pardon my ignorance, but what's that?

>Not to mention that there are a lot of folks on this list who DO have
>access to suitable analyzers.

Great. Let them borrow and MFJ-1800 antenna and run their own tests.
>So Renee's question was pretty reasonable.

True. I should have tested my model to verify my allegations. Perhaps
I should also do indoor/outdoor tests, in various environmental
situations, in the presence of interference, and with a side by side
comparison with other antennas. Yeah, that would be great, but I
don't have that much time (or money). I threw together an NEC2 model
that suggested that the antenna is mis-designed and left it there.

>> Incidentally, I recently purchased a pair of totally misdesigned
>> 2.4Ghz yagi's on eBay for about $8/ea.
>> <http://802.11junk.com/jeffl/crud/wi-fi-yagi-that-sucks.jpg>
>> Note the crude driven element, exposed coax conductors, and lack of a
>> balun. What happened was that this was a cheap clone of another
>> similar antenna, which did provide all the required matching
>> circuitry. This vendor decided it was too much trouble to copy the
>> matching network and balun, so he just left it out. It has more gain
>> to the sides of the yagi, than in front.

>Fascinating... especially since the matching network wouldn't normally
>have any effect on the pattern. Balun/Choke having an effect, I could
>see (coupling to the feedline screws up the pattern).

I didn't include the feedline in my model, which due to the lack of a
balun (I don't consider the ferrite bead to be a balun due to the high
frequency) will radiate and produce weird patterns. Never mind the
fairly large lengths of exposed conductors at both ends of the coax
cable. I'm not sure exactly what a 200 ohm antenna in a 50 ohm system
will do. 300 ohms in a 50 ohm system is a 6:1 VSWR and a 3.1 dB
mismatch loss. So what if we loose half the power in the mismatch.

>>> Has anyone confirmed what the piece is that connects the driven element with the
>>> coax connector that looks to be a short piece of coax covered in heat shrink?
>>> Has anything been found or measured hiding under the heat shrink?
>>
>> There's a ferrite bead under the shrink tube. If you can find a
>> ferrite material that actually works at 2.4GHz, it might pretend to do
>> something useful. However, no way is it going to provide a 4:1
>> impedance transformation.
>
>2.4 GHz is 12 cm wavelength
>
>4-6cm of transmission line is a good fraction of a wavelength. How do
>you know it's not 3/4 lambda of 75 or 92 ohm line, or something like
>that. (1/4 wavelength of 75 ohms would transform 200 ohms to about 30
>ohms, for instance)

The owner of the antenna measured the coax cable dimensions. From
that, we determined that it was 50 ohms coax. I have the numbers
buried in email correspondence somewhere. I'll see if I can find
them. Digging.... Nothing yet, but I did find one more photo:
<http://802.11junk.com/jeffl/MFJ-1800/>
While it's difficult to transfer dimensions from the photos, the coax
cable even looks like a 50 ohm cable. Not the thick center conductor,
which makes 92 ohms improbable, and 75 ohms unlikely. You can see the
ferrite beads through the stink tube.

>I've worked with enough UHF and microwave antennas with weird funky
>feedpoint things to not trust in first impressions. There could be all
>sorts of parasitics that help the situation out, and they're tough to
>model accurately (you're certainly not going to do it with NEC, for
>instance.. I'd trust NEC for the feedpoint impedance without
>matching/balun/stubs..)

Well, that's what my model did. The characteristic impedance of the
model is set to 200 ohms at the folded dipole. No matching network
involved. See:
<http://802.11junk.com/jeffl/antennas/mfj1800/slides/VSWR.html>
and note the 200 ohms in the upper left of the VSWR graph.

>Yeah, it's probably not a nice 1:1 match over the entire band, but then,
>most antennas aren't.

Look again at the graphs.
<http://802.11junk.com/jeffl/antennas/mfj1800/slides/VSWR.html>
It's absolutely gorgeous across the band. Less than 1.3:1 from 2400
to 2483.5. I would also have expected a much more narrow band antenna
and was very surprised at the wide bandwidth. That's not normal for a
high gain yagi.

>It just has to be "good enough" and in that
>business, the loss in the feedline probably dominates anyway. Figure 3
>dB of loss in the feedline, and you get a 6B improvement in return loss.

Yep. That's why I measure VSWR at the antenna, not the source. I
like to use LMR-400 with 6.6dB loss per 100ft. 3dB loss would be
about 50 ft of coax cable, which is MUCH longer than I would use at
2.4GHz. Also, I'm partial to putting the radio next to the antenna,
which reduces coax losses to nearly zero.

>The model you have shows a beamwidth around 30 degrees (H) and 28
>degrees (V).. that's a directivity around 16 dBi

Yep. For the benefit of those trying to follow all this, see the
numbers in red at the right:
<http://802.11junk.com/jeffl/antennas/mfj1800/slides/Horiz.html>
Incidentally, notice the asymmetrical pattern, caused by the off
center line position of the copper folded dipole driven element.

>4NEC2 is giving you 14dB gain.. that's moderately consistent, although 2
>dB is something I'd want to figure why the difference.

The 2dB is from the -2dB gain in the reverse direction (180 deg).
14dB forward gain. -2dB reverse gain. 14 - (-2) = 16dB directivity.
I don't see a problem.

>I'd want to
>figure out why 2dB different, especially since you didn't put resistive
>loading into your model, which, at 2.4GHz *will* make the match better

Ummm... why would I need a load? I'm only interested in what the
antenna looks like to whatever I connect to the terminals. If I
included the generator source impedance in the model, I would have to
also include the generator output impedance characteristics,
connecting cables, and possibly some manner of 4:1 xformer.

>MFJ claims 15dBi, and that is also consistent with your model and the
>back of the envelope from the pattern.

Close enough. When in doubt, always round up to make the numbers look
better.

>>> I realize we can all assume the antenna impedance is 50 ohms, but is it actually
>>> stated in any of the specifications from MFJ? I didn't see any mention of
>>> impedance specification at all for this antenna, but I could only find
>>> information on the web page at the link you provided as well as in the pdf file
>>> of the instructions for the MFJ-1800. The instructions are rather sparse.
>>

>> Good point. One can assume that if it uses a 50 ohm coax pigtail, a
>> 50 ohm N connector, and is designed to connect to a wireless device
>> that presents 50 ohms, it just might need to be a 50 ohm antenna.

>Nope.. not if the feedline is a couple dB loss (which wouldn't be
>unusual for a laptop pigtail using RG-174 or smaller).. All they really
>care about in this kind of application is the directivity.

Maybe. Using coax loss to improve VSWR is an old trick. Whether it's
being done intentionally is debatable. I prefer to assume that if all
the major components are 50 ohms, then perhaps the antenna should also
be 50 ohms.

>After all, how many ham antennas for HF have a PL-259/SO-239 "UHF"
>connector on them.

Too many. However, HF antennas are not as critical to construction
and component differences as microwave antennas. What hams get away
with building HF antennas, would be doom and disaster at microwave
frequencies. You also don't see UHF connectors and banana jacks at
UHF frequencies.

>I wouldn't take the fact that it has a 50 ohm
>connector as indicating anything other than it's a common connector that
>people are likely to have mating connectors for.

Ok, I'll conceded that there's a possibility that there's some
matching magic going on behind the curtains, that's not visible to
mere mortals. Lacking the necessary insight, I prefer to judge based
on what I can see, feel, touch, understand, and test.

>75 ohm BNC, Ns, etc exist, but how many people use them on dipoles
>(which have 72 ohm impedance)... nahh. they just use a 50 ohm cable, UHF
>connectors, and are done with it.

Most of the feed lines to my roof are 75 ohm CATV rigid cable. Also,
plenty of 75 ohm RG-6a/u. Worst case VSWR for doing this is 1.5:1.
The tiny mismatch loss for this arrangement is more than compensated
for the lower coax loss of 75 ohm coax, compared to similar sized 50
ohm coax.
<http://www.qsl.net/n9zia/wireless/75_ohm_hardline.html>

>If they used 75 ohm coax on this antenna, and it's close to a multiple
>of 1/4 wavelength, then the match at the N connector is probably not a
>lot worse than using 50 ohm coax on a dipole.

The antenna impedance (by my model) is between 200-300 ohms. To use a
1/4 wave section to match that to 50 ohms, the coax would need to be:
Zo = (Zout * Zin)^0.5
Zo = (200 * 50)^0.5 = 100 ohms
93 ohm RG-62/u would probably be close enough. However, the coax
cable in the photo is certainly not 93 ohms (judging by the fat center
conductor).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2121. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 00:53:12 UTC
From: tom <news4792@taring.org>
Message-ID: <4e5c3478$0$74948$8046368a@newsreader.iphouse.net>
Source record: 3922

On 8/28/2011 7:31 AM, BillyBobMarley wrote:
> On Aug 27, 10:40 pm, tom<news4...@taring.org> wrote:
>> On 8/27/2011 7:33 PM, BillyBobMarley wrote:
>>
>>
>>
>>> MFJ = Mighty Fine Junk
>>
>> If this is your opinion you can't evaluate hardware worth bleep.
>
> How the F&*&* would you know?
>
>
>>
>> The majority of what they sell does exactly what it's advertised to do.
>
> To a degree ,granted.
>
>> You have to read the specs. And read the reviews carefully because
>> the hams who post that can't make the items work are often just ignorant
>> or incompetent.
>
> That's a pretty harsh statement there pal.I bought and used one of the

Yup, and pretty true. Most hams don't know crap or how to measure it.

> antenna tuners the proclaimed as "up to 300 watts" and the friggin'
> 4:1 balun blew out after 2 days of usage.I bought the contraption cuz
> I didn't have the time or parts to build a really good one myself at
> the time.

Did you exceed the ratings of the device?

Silly question, because you probably didn't know the load you were
trying to match.

tom
K0TAR

2122. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 01:36:40 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F51761AC5BF3nonenowhere@88.198.244.100>
Source record: 3923

BillyBobMarley <whax44@gmail.com> wrote in news:712c8e31-3f19-4d7a-8848-baddaf4378db@dl2g2000vbb.googlegroups.com:

...
> That's a pretty harsh statement there pal.I bought and used one of the
> antenna tuners the proclaimed as "up to 300 watts" and the friggin'
> 4:1 balun blew out after 2 days of usage.

You wouldn't be the first person to damage a '300W ATU' witha transmitter of less than 300W.

The point is that the power ratings on ATUs (and lots of other accessories, eg baluns) are extravagant giving that they are not explicitly conditioned on some operating parameters.

I expect that an MFJ949E will handle 300W from 160m to 10m if matched into a 50 ohm load... but does that make such a statement a worthwhile specification for the thing. No, of course not because if you had 50 ohm load you don't need the ATU.

Do the specifications for this or any ATU state X kW at any load impedance (any magnitude, any phase)... not in my experience.

I have heard people brag that "my ATU is so good, I can get VSWR=1 with not antenna attached". Ok, that is a recipe for damaging the ATU, and if it was an MFJ949E and its voltage balun was in circuit, that would be at risk.

I wrote some notes at http://www.vk1od.net/transmissionline/aev/index.htm about high voltage damage to ATUs, and realise that not only may it cause flashovers, but high voltage causes highest dissipation in voltage baluns.

Owen

2123. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 02:55:34 UTC
From: tom <news4792@taring.org>
Message-ID: <4e5c5126$0$74946$8046368a@newsreader.iphouse.net>
Source record: 3924

On 8/29/2011 7:53 PM, tom wrote:
> On 8/28/2011 7:31 AM, BillyBobMarley wrote:
>
> Did you exceed the ratings of the device?
>
> Silly question, because you probably didn't know the load you were
> trying to match.
>

Or the what the ratings meant.

tom
K0TAR

2124. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 07:03:33 UTC
From: "Helmut Wabnig"
Message-ID: <602p57pqf3i6guvpeljr8makbt268b7vnm@4ax.com>
Source record: 3925

On Mon, 29 Aug 2011 08:51:12 GMT, Clifford Heath <foo@bar.com> wrote:

>On Sun, 28 Aug 2011 22:09:00 +0200, Helmut Wabnig wrote:
>> All started because I could not get the PVC tubing which the many
>> internet sites propose.
>
>Hi. I foxhunt regularly with the Melbourne ARDF community,
>and we have the design of 2m sniffer antennas down to a fine art.
>
>The best material for the shaft is 12mm square or u-channel aluminium.
>
>The common antenna element length and spacing recommended with the
>tape-measure antenna is wrong - very wrong. For a start, the lengths
>vary by too much (in the hope of a wider effective bandwidth), and
>the reflector is too close to the driven, the director too far away.
>This causes large rear side lobes, which makes sniffing incredibly
>frustrating.
>
>For effective sniffing, you *don't* want maximum F/B ratio, and you
>don't want maximum gain - what you want is a cardioid pattern with
>just one lobe - the front one. Anything else will give you a bum
>steer.
>
>The best pattern we've found so far is the VK3VT beam:
><http://www.vk3vt.net/VTbeam.html>. Most of the recent ones use a
>gamma match instead of the one shown.
>
>We build this using elements made up from 3mm fiberglass rod and
>co-ax braid, covered by heatshrink. The element goes through a
>short copper tube before the heatshrink goes on.
>
>These elements are sufficiently stiff to keep their shape, but
>whippy enough to run with through a tree.
>
>Clifford Heath.

Do you think the matching affects the cardioid or F/B pattern?
So far I have neglected any influence from that.

With the YAGICAD optimizer I could not come to a positive end.
This program finds 100 different "optimums" therefore
I turned to 4nec2 now.
The patterns which YAGICAD calculates look good to me.
When I compare the F/B patterns, of course the 4nec2 has a more
detailed "resolution" showing minor side lobes where YAGICAD

is just approximating.

I wonder how important matching is for a pure
direction finding antenna, methinks rather it should not.
Only the coax cable currents are not considered
in the simulator diagrams, there might be an influence.
Therefore matching is important :-)

Thank you for the vk3vt link.

w.
http://www.qsl.net/oe8uww/

2125. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 07:07:02 UTC
From: "Helmut Wabnig"
Message-ID: <mr2p57trnfrpca036o2qiptscel1j1q4nc@4ax.com>
Source record: 3926

On Sun, 28 Aug 2011 14:24:01 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>On Sun, 28 Aug 2011 22:09:00 +0200, Helmut Wabnig <hwabnig@.- ---
>-.dotat> wrote:
>
>>Am still struggling with the tape-measure correction factors
>>for the antenna simulator (4nec2)
>>Anybody having already tried simulating tape measure antennas?
>
>Not tape measures, but I have done stamped sheet metal, which is
>somewhat similar. See the plots at:
><http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
>The NEC2 deck is under:
><http://802.11junk.com/jeffl/antennas/mfj1800/slides/mfj-1800.html>
>

Thank you for the examples!

w.
http://www.qsl.net/oe8uww/

>The problem is that the common "wire" rod antenna elements aren't
>close enough. So, I had to use the actual dimensions from the sheet
>metal. You'll probably need to do the same, with the added
>complication of including the arc in the cross section. It's not as
>horrible as it might seem as all your elements are the same cross
>section. Use the "Geometry Builder" program that comes with 4NEC2.
>
>>I cannot imagine running through underbrush thicket with the MAY1000.
>>It will quickly fold into it's sales package size :-)
>
>Have you considered an inflatable version?
>
><http://www.scouting.org/filestore/jota/pdf/TURNER.pdf>
>Hmmm.... they use a WB2HOL tape measure antenna.

2126. Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 11:44:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5pj09.oo5.gsm@cable.mendelson.com>
Source record: 3927

I was looking at cheap HT's last night on eBay and I found several vendors selling duplexers for repeater use. They sell for about $60 each.

They are 6 cavity (three transmit, three receive) and the closest they can go on VHF is 3.5mHz.

Doing a web search I find they are not very good (what did you expect?) but with a good front end they will work ok.

My problem is not only one of money (don't tell me to not waste my money and buy a good, one, I can't afford it), but my 2m band is only 144-146 mHz, and the repeater portion is really just 145-146. I'm also limited to 20w output.

So my question is anyone familar with them? Is it possible to take one and convert it to a 6 cavity input filter? For example, I could put the input on one side my yard and the output on the other, about 30 feet apart.

For example, if the input of the repeater was 145.600, could I have them both tuned to 145.600 and connect the input of the receiver to one set of cavities, the antenna to the other and leave the antenna connection untouched, effectively placing them in series?

Thanks in advance,

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2127. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 11:56:33 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj5pjvh.4s8.nomail@xs8.xs4all.nl>
Source record: 3928

Geoffrey S. Mendelson <gsm@mendelson.com> wrote:
> So my question is anyone familar with them? Is it possible to take one
> and convert it to a 6 cavity input filter? For example, I could put the
> input on one side my yard and the output on the other, about 30 feet apart.

No. There are two sides, one of them for the high frequency and the
other for the low frequency. The filter response is such that it passes
on one frequency and notches on the other.

2128. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 12:29:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5pljj.sl1.gsm@cable.mendelson.com>
Source record: 3929

Rob wrote:

> No. There are two sides, one of them for the high frequency and the
> other for the low frequency. The filter response is such that it passes
> on one frequency and notches on the other.

Ok thanks. Note that they are tunable anywhere in the 136-17? range.

Assuming the pass side is set to pass 145.600 (the input) and the notch side is set to notch out 145.000 (the output) and they are connected in series, would that work?

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2129. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 13:01:01 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj5pnod.ga3.nomail@xs8.xs4all.nl>
Source record: 3930

Geoffrey S. Mendelson <gsm@mendelson.com> wrote:
> Rob wrote:
>
>> No. There are two sides, one of them for the high frequency and the
>> other for the low frequency. The filter response is such that it passes
>> on one frequency and notches on the other.
>
> Ok thanks. Note that they are tunable anywhere in the 136-17? range.
>
> Assuming the pass side is set to pass 145.600 (the input) and the notch
> side is set to notch out 145.000 (the output) and they are connected in
> series, would that work?

It is not a pass side and a notch side. Both sides are pass/notch.

But on one side the pass freq is above the notch freq, and on the
other side the pass freq is below the notch freq.

On the Chinese duplexers you have found, the Q is probably not high
enough to tune the pass and notch to frequencies 600 kHz apart.

2130. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 13:09:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5po4f.b9.gsm@cable.mendelson.com>
Source record: 3931

Rob wrote:

> On the Chinese duplexers you have found, the Q is probably not high
> enough to tune the pass and notch to frequencies 600 kHz apart.

Ok, thanks.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2131. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 13:21:47 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnj5pp0r.1i3.knock_yourself_out@shell.config.com>
Source record: 3932

On 30 Aug 2011 13:01:01 GMT, Rob wrote:
> Geoffrey S. Mendelson <gsm@mendelson.com> wrote:
>> Rob wrote:
>>
>>> No. There are two sides, one of them for the high frequency and the
>>> other for the low frequency. The filter response is such that it passes
>>> on one frequency and notches on the other.
>>
>> Ok thanks. Note that they are tunable anywhere in the 136-17? range.
>>
>> Assuming the pass side is set to pass 145.600 (the input) and the notch
>> side is set to notch out 145.000 (the output) and they are connected in
>> series, would that work?
>
> It is not a pass side and a notch side. Both sides are pass/notch.
>
> But on one side the pass freq is above the notch freq, and on the
> other side the pass freq is below the notch freq.
>
> On the Chinese duplexers you have found, the Q is probably not high
> enough to tune the pass and notch to frequencies 600 kHz apart.

We still don't have a clear description of what the OP is trying to
accomplish.

2132. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 13:51:28 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5ceae0$0$12450$bd467cd0@news.dslextreme.com>
Source record: 3933

Allodoxaphobia wrote:

> On 30 Aug 2011 13:01:01 GMT, Rob wrote:
>> Geoffrey S. Mendelson <gsm@mendelson.com> wrote:
>>> Rob wrote:
>>>
>>>> No. There are two sides, one of them for the high frequency and the
>>>> other for the low frequency. The filter response is such that it passes
>>>> on one frequency and notches on the other.
>>>
>>> Ok thanks. Note that they are tunable anywhere in the 136-17? range.
>>>
>>> Assuming the pass side is set to pass 145.600 (the input) and the notch
>>> side is set to notch out 145.000 (the output) and they are connected in
>>> series, would that work?
>>
>> It is not a pass side and a notch side. Both sides are pass/notch.
>>
>> But on one side the pass freq is above the notch freq, and on the
>> other side the pass freq is below the notch freq.
>>
>> On the Chinese duplexers you have found, the Q is probably not high
>> enough to tune the pass and notch to frequencies 600 kHz apart.
>
> We still don't have a clear description of what the OP is trying to
> accomplish.

He is wondering if something can be modified. He wants a half-duplex
radio with a 600 kHz split, on a common antenna. The duplexer he is
looking at has a 5 MHz offset. He wants to know if it can be
re-configured for ham with a much smaller offset.

http://www.repeater-builder.com/rbtip/2mduplexer.html

2133. HOT SEX BED ROOM VIDEOS AND 200 BEST ACTRESSES PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 15:16:28 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <2333ad1d-3a36-4d26-a7c1-7eb9d1d64f04@u6g2000prc.googlegroups.com>
Source record: 3934

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SEXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

2134. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 15:29:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5q08d.9pf.gsm@cable.mendelson.com>
Source record: 3935

Allodoxaphobia wrote:
>
> We still don't have a clear description of what the OP is trying to
> accomplish.

Take two radios, two j-poles and a lot of coax and make a repeater.
Obviously I will need some sort of controller in between but that's
irrelevant.

I want to place one J-pole (or similar antenna) at one corner of my garden,
and another at the other one (10 meters apart).

One will be used to receive a signal, the other to relay it. They both
will be somewhere on the 144-146mHz band, with the output being a few watts
with a max of 20.

Besides the distance, I was looking for a cheap way of not having
the transmitted signal block the receiver. The duplexer in question
is rated at 75dB isolation with a 3.5mHz split, I can only have .6 mHz.

What I was wondering is that since at a .6mHz split, the isolation will
be a lot less, can I somehow combine the two sides to make a better
filter?

Thanks,

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2135. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 15:42:46 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <730q5717cb7u262rnml28074jhr5b7rtau@4ax.com>
Source record: 3936

On Tue, 30 Aug 2011 11:44:03 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>I was looking at cheap HT's last night on eBay and I found several vendors
>selling duplexers for repeater use. They sell for about $60 each.
>
>They are 6 cavity (three transmit, three receive) and the closest they can
>go on VHF is 3.5mHz.
>
>Doing a web search I find they are not very good (what did you expect?)
>but with a good front end they will work ok.
>
>My problem is not only one of money (don't tell me to not waste my money
>and buy a good, one, I can't afford it), but my 2m band is only 144-146
>mHz, and the repeater portion is really just 145-146. I'm also limited
>to 20w output.
>
>So my question is anyone familar with them? Is it possible to take one
>and convert it to a 6 cavity input filter? For example, I could put the
>input on one side my yard and the output on the other, about 30 feet apart.

There are calculators that will predict the isolation. At 20 watts
(+43dBm), with a broadband synthesizer noise level at about -30dBm,
and an RX sensitivity of about -106dBm, you'll need at least 76dB of
TX-RX isolation. The little cavities have too wide a notch (i.e. low
Q) and will attentuate the RX signal and smoke the TX signal at 0.6Mhz
spacing. Seperating the antennas won't solve that problem. If you
try to get sufficient isolation using vertically isolated antennas,
you might get sufficient isolation, but the Q of the notch filters
will still kill the signal both ways.

Vertical antenna isolation:
<http://awapps.commscope.com/products/bsa/_calculators/qvisolation.asp>
Horizontal antenna isolation:
<http://awapps.commscope.com/products/bsa/_calculators/qhisolation.asp>

>For example, if the input of the repeater was 145.600, could I have them
>both tuned to 145.600 and connect the input of the receiver to one
>set of cavities, the antenna to the other and leave the antenna connection
>untouched, effectively placing them in series?

Nope. Not enough Q (too wide a notch).
Bigger cavities = higher Q.
More cavities = deeper notch and therefore more isolation.

Quiz: The Q of given cavity is 1000. If I critically couple 2 such
cavities in series, what is the resultant Q? 10 such cavities? etc?

Answer: 1000 in all cases. The 3dB bandwidth does not change when
tuned circuits are critically coupled.

Read the specs on the eBay web page. For example:
<http://www.ebay.com/itm/110460354111>
"Minimum Tx and Rx frequency difference: VHF 3.5Mhz"
That's not going to work with 0.6MHz spacing on the 2m ham band.

This is what a proper (Phelps-Dodge) 2m duplexer looks like:
<http://www.LearnByDestroying.com/k6bj/K6BJ%20Repeater/slides/2m%20duplexer2.html>
Note the much large size cavities.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2136. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 15:55:07 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ma1q57lml4t9mn3s015k3u92bbl642tos9@4ax.com>
Source record: 3937

On Tue, 30 Aug 2011 15:29:03 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>Allodoxaphobia wrote:
>>
>> We still don't have a clear description of what the OP is trying to
>> accomplish.
>
>Take two radios, two j-poles and a lot of coax and make a repeater.

Retch.

>I want to place one J-pole (or similar antenna) at one corner of my garden,
>and another at the other one (10 meters apart).

Plugging into:
<http://awapps.commscope.com/products/bsa/_calculators/qhisolation.asp>
I get about 30dB isolation (assuming 2dBi antenna gains).
The synthesizer noise belching from your xmitter is maybe -60dB down
from the +43dBm xmit carrier. That puts the noise level at -17dBm at
the receive antenna. Your receiver sensitivity is probably -106dBm,
which means you need about 90dB of isolation. The antenna spacing
will provide 30dB of that. You cavities are suppose to provide the
remaining 60dB of isolation. That's not going to happen with tiny
mobile duplexer cavities.

Hint1: You'll be close with vertical antenna isolation.
Hint2: Some radios have quite a bit of synthesizer noise, much of
which will be on your repeater receive frequency. This is why some
repeaters still use crystal oscillators instead of synthesizers.

>One will be used to receive a signal, the other to relay it. They both
>will be somewhere on the 144-146mHz band, with the output being a few watts
>with a max of 20.

Somewhere? Duplexers are usually bench tuned to some specific
frequency. It's not a trivial exercise and requires some expenditures
in time and equipment. You can't easily move in frequency.

>Besides the distance, I was looking for a cheap way of not having
>the transmitted signal block the receiver. The duplexer in question
>is rated at 75dB isolation with a 3.5mHz split, I can only have .6 mHz.
>
>What I was wondering is that since at a .6mHz split, the isolation will
>be a lot less, can I somehow combine the two sides to make a better
>filter?

You can't improve things by simply adding more cavities. All you'll
do is add more loss:
Bigger cavities = higher Q and therefore closer frequency spacing.
More cavities = deeper notch and therefore more isolation.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2137. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 15:59:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5q1ub.cg4.gsm@cable.mendelson.com>
Source record: 3938

Jeff Liebermann wrote:
>
> There are calculators that will predict the isolation.
.....
> "Minimum Tx and Rx frequency difference: VHF 3.5Mhz"
> That's not going to work with 0.6MHz spacing on the 2m ham band.
>
> This is what a proper (Phelps-Dodge) 2m duplexer looks like:
><http://www.LearnByDestroying.com/k6bj/K6BJ%20Repeater/slides/2m%20duplexer2.html>
> Note the much large size cavities.

Thanks, that's exactly what I needed to know.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2138. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 16:17:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i03q57huha3eiaeqdhfdtivc4nmik892db@4ax.com>
Source record: 3939

On Tue, 30 Aug 2011 09:03:33 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>I wonder how important matching is for a pure
>direction finding antenna, methinks rather it should not.

You are right, not at all.

>Only the coax cable currents are not considered
>in the simulator diagrams, there might be an influence.
>Therefore matching is important :-)

You should have stopped writing at the first thought. CHOKING is
supremely important, and is a benefit found in good matching design.
Choking can be achieved without matching, however. And choking will
be needed at least at the feed point, and again a quarterwave down the
line.

73's
Richard Clark, KB7QHC

2139. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 16:29:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5q3uc.e31.gsm@cable.mendelson.com>
Source record: 3940

Jeff Liebermann wrote:
>>Take two radios, two j-poles and a lot of coax and make a repeater.
>
> Retch.
>

Why? Don't you make experimental stuff? I did not say it was a permanent
repeater, it's actually a test bed for some repeater/internet linking
systems we are trying out.

Budget is zero, but I can swing a roll of rg-6 and maybe a $60 duplexer
if I don't buy anything else (radio/computer related) that month.

> Plugging into:
><http://awapps.commscope.com/products/bsa/_calculators/qhisolation.asp>
> I get about 30dB isolation (assuming 2dBi antenna gains).
> The synthesizer noise belching from your xmitter is maybe -60dB down
> from the +43dBm xmit carrier. That puts the noise level at -17dBm at
> the receive antenna. Your receiver sensitivity is probably -106dBm,
> which means you need about 90dB of isolation. The antenna spacing
> will provide 30dB of that. You cavities are suppose to provide the
> remaining 60dB of isolation. That's not going to happen with tiny
> mobile duplexer cavities.

OK, thanks.

> Hint1: You'll be close with vertical antenna isolation.

Explain, do you mean just the distance if they are both vertical, or
the distance AND one is vertical and the other horizontal?

> Hint2: Some radios have quite a bit of synthesizer noise, much of
> which will be on your repeater receive frequency. This is why some
> repeaters still use crystal oscillators instead of synthesizers.

Also almost irrelevant. The radios wll be what I have, HTX-202s or what
I can scrounge (TBD). I'd love to get my hands on 2 channel Maxtracs
or similar radios out of taxis, but the people sitting on piles of them are
much more interesting in refurbishing and enhancing them than selling them
cheaply or giving them away.

I'd be very happy with ones that receive only or have blown finals that I
can get 2w or so out of.

>>One will be used to receive a signal, the other to relay it. They both
>>will be somewhere on the 144-146mHz band, with the output being a few watts
>>with a max of 20.

>
> Somewhere? Duplexers are usually bench tuned to some specific
> frequency. It's not a trivial exercise and requires some expenditures
> in time and equipment. You can't easily move in frequency.

I know, but I don't have a "pair" yet. I'm not even sure there are any
available or a test one. So why be specific when I don't have that information
yet, and why wait for it to ask a technical question, which will have
the same answer no matter which frequencies I use?

> You can't improve things by simply adding more cavities. All you'll
> do is add more loss:
> Bigger cavities = higher Q and therefore closer frequency spacing.
> More cavities = deeper notch and therefore more isolation.

And that's the answer I need.

Thanks,

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2140. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 17:09:33 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3j5gd$5h2$1@news.jpl.nasa.gov>
Source record: 3942

On 8/30/2011 6:01 AM, Rob wrote:
> Geoffrey S. Mendelson<gsm@mendelson.com> wrote:
>> Rob wrote:
>>
>>> No. There are two sides, one of them for the high frequency and the
>>> other for the low frequency. The filter response is such that it passes
>>> on one frequency and notches on the other.
>>
>> Ok thanks. Note that they are tunable anywhere in the 136-17? range.
>>
>> Assuming the pass side is set to pass 145.600 (the input) and the notch
>> side is set to notch out 145.000 (the output) and they are connected in
>> series, would that work?
>
> It is not a pass side and a notch side. Both sides are pass/notch.
>
> But on one side the pass freq is above the notch freq, and on the
> other side the pass freq is below the notch freq.
>
> On the Chinese duplexers you have found, the Q is probably not high
> enough to tune the pass and notch to frequencies 600 kHz apart.

one might be able to cascade two of them, but Rob's point about Q is
well taken.

It depends on whether the problem is the "depth of rejection" or the
"steepness of skirt". A single resonant unit has a narrow spike on top
of gentle shoulders. Say one section has Q of 1000 (i.e. the 3dB
bandwidth is 100kHz for 100MHz center frequency), but the rejection at 1
MHz away is only 20dB. I could cascade 3 sections, tuned exactly the
same, and I'd have 9dB loss at 100kHz, and 60dB rejection at 1 MHz away.
The 3dB bandwidth might be around 30kHz, or, you could stagger the
tuning slightly to get a little broader flat top, but keep the 60dB
(i.e. moving the center frequency of one cavity by 10kHz won't change
the attenuation at 101 MHz)

The design challenge is that you need to suppress the transmit signal
(at, say, 50W, +47dBm) low enough so that the front end of the receiver
can handle it without blocking (say, you want it down around -50dBm).
With our not so hot cavities described above, you'd need to stack up 5
sections at 20dB per section to get the 100dB suppression. Well, that's
not so great, because you probably now have a bunch of additional loss
in the receive path, AND you've got a real tuning chore on your hands to
make sure that all of them are tuned appropriately to get the required
bandwidth.

Enter the idea of a notch. Let's say our example is 101 MHz Tx and 100 MHz Rx. Rather than rely on the "far away" response of a resonator to suppress the transmit, I can put a 101 MHz notch filter on the input to my receiver. If I can get 30dB/section rejection, then 3 or 4 sections will knock the Tx power down low enough to not block the receiver's front end.

But wait, there's more... that Tx isn't a narrow spike. It has phase noise sidebands that go out fairly far. Unfortunately, the run of the mill transmitter might only suppress "off channel spurious and noise" by, say, -50dBc (and a rig designed to operate half duplex is probably worse). That means that your 50W (+47dBm) transmitter is putting out -3dBm *at the receive frequency*, so no amount of filtering on the receive path will help. Again, enter the notch filter.. you put a 100 MHz notch on the output of the transmitter.

Now.. as Rob points out, the Q might be kind of low. If the Q is, say, 100, then that 100MHz filter is 1MHz wide, and by the time you cascade enough to get the BW down, the loss will be huge.

As you can see, this whole duplexer/diplexer/multicoupler design thing can get pretty complex, and there's not usually a simple cookbook answer.

2141. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 17:28:20 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3j6jk$7dk$1@news.jpl.nasa.gov>
Source record: 3943

On 8/30/2011 8:29 AM, Geoffrey S. Mendelson wrote:
> Allodoxaphobia wrote:
>>
>> We still don't have a clear description of what the OP is trying to
>> accomplish.
>
> Take two radios, two j-poles and a lot of coax and make a repeater.
> Obviously I will need some sort of controller in between but that's
> irrelevant.
>
> I want to place one J-pole (or similar antenna) at one corner of my garden,
> and another at the other one (10 meters apart).

This will actually help a bit

The free space attenuation for 10 meters at 144MHz is
32.4+20*log10(0.01)+20*log10(144) 32.4-40 +43.2 = about 36dB.

If your Tx is 20W (+33dBm), then the receiver is going to see about
-3dBm at the Tx frequency. If you want to get the Tx signal down to
around -40dBm or so, you only need 30-40 dB of attenuation at the Tx freq

Then there's the Tx phase noise to worry about. Figure it's 60dB down,
so +33-60-36 = about -63dBm.. probably enough to completely mask any
received signals (what's your sensitivity.. -130dBM?) so you need a
notch with 70dB rejection on the output of your Tx.

You're 600kHz away, implying you need a Q better than a few hundred.
If you just tune up some of those cans for that, and the Q is too low,
then you'll be attenuating your transmitter.

Any reason why you're using a split of 600kHz? Why not go to a
non-standard split to make life easier. Pick two frequencies 3 MHz apart
(assuming you can get them coordinated, which is more a political than a
technical issue)
>
> One will be used to receive a signal, the other to relay it. They both
> will be somewhere on the 144-146mHz band, with the output being a few watts
> with a max of 20.
>
> Besides the distance, I was looking for a cheap way of not having
> the transmitted signal block the receiver. The duplexer in question
> is rated at 75dB isolation with a 3.5mHz split, I can only have .6 mHz.
>
> What I was wondering is that since at a .6mHz split, the isolation will
> be a lot less, can I somehow combine the two sides to make a better

> filter?
>
> Thanks,
>
> Geoff.
>

2142. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 17:51:24 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <bk7q57hsf2kcg0edle7ns6d2g2ujgmdncq@4ax.com>
Source record: 3941

On Tue, 30 Aug 2011 16:29:03 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>Jeff Liebermann wrote:
>>>Take two radios, two j-poles and a lot of coax and make a repeater.
>>
>> Retch.

>Why? Don't you make experimental stuff?

I don't like J-pole antennas. I've also built too many repeaters in
the past to know that they can't just be thrown together from
available parts. One of my friends learned that expensive lesson with
his 2m repeater. He started with two ham transceivers, went to two
Maxtrac radios, and finally to a GE MSTR II. Duplexers went from 4
cavity junk, to a 6 cavity monster.

>I did not say it was a permanent
>repeater, it's actually a test bed for some repeater/internet linking
>systems we are trying out.

Sounds interesting. Plan on everything costing at least 4 times
what's predicted, and for things to take perhaps 4 times as long.
Unplanned repairs and "tweaks" should double the required time.

>Budget is zero, but I can swing a roll of rg-6 and maybe a $60 duplexer
>if I don't buy anything else (radio/computer related) that month.

Initial budget can be zero. Just plan on a replacement budget equal
to the price of a proper repeater.

How's this for an expensive mistake?
<http://802.11junk.com/jeffl/K6BJ-MSF5000/>
I've burned about $800 on this mess and it's still not on the air.
Wanna guess what went wrong? (Hint: it involves the internal
duplexer).

>><http://awapps.commscope.com/products/bsa/_calculators/qhisolation.asp>

>> Hint1: You'll be close with vertical antenna isolation.
>
>Explain, do you mean just the distance if they are both vertical, or
>the distance AND one is vertical and the other horizontal?

Assuming vertically polarized monopole antennas, vertical isolation is
from tip of one antenna to the tip of the other antenna. Horizontal
isolation is just the horizontal spacing. If they're seperated both
vertically and horizontally, then there's a problem. You only need to

be offset horizontally slightly, for the antennas to couple. I ran
into this problem when I tried to put two vertically seperated
antennas on opposite sides of a tower. The isolation was better then
they were directly in line with each other, on the same side of the
tower. Incidentally, mounting one antenna upside down offers
additional distance and improved isolation.

>> Hint2: Some radios have quite a bit of synthesizer noise, much of
>> which will be on your repeater receive frequency. This is why some
>> repeaters still use crystal oscillators instead of synthesizers.
>
>Also almost irrelevant. The radios wll be what I have, HTX-202s or what
>I can scrounge (TBD).

Retch 2.0. Radio Shock HTX-202 handhelds tend to stick on the air
with low battery voltage. The receivers are also easily overloaded.
We have the remaining few HTX-202 radios used for APRS WX packet. I
would love to replace them, but nobody (including me) want's to spend
the time.

>I'd love to get my hands on 2 channel Maxtracs
>or similar radios out of taxis, but the people sitting on piles of them are
>much more interesting in refurbishing and enhancing them than selling them
>cheaply or giving them away.

Patience. On Jan 1, 2013, everything in the US is suppose to go
narrow band. There should be tons of cheap radios available on eBay
and from public safety outlets.

>I'd be very happy with ones that receive only or have blown finals that I
>can get 2w or so out of.

Make sure you get the ones with the 16 pin accessory connector. Many
of the Maxtrac's on eBay are actually cobbled together Radius or M120
radios, with odd boards and strange firmware. Caveat emptor.

>I know, but I don't have a "pair" yet. I'm not even sure there are any
>available or a test one. So why be specific when I don't have that information
>yet, and why wait for it to ask a technical question, which will have
>the same answer no matter which frequencies I use?

Careful. Some repeater frequencies are a problem. For example,
146.760 is on the 41st harmonic of the common 3.579545MHz clock osc
frequency. No problem at the repeater, but it will drive the users
nuts.

If co-located with other radios, be sure to do an intermodulation
study.
<http://www3.telus.net/PassiveRF/>
We found out too late that a mix of some of our transmit frequencies
lands on one of our inputs.

>> You can't improve things by simply adding more cavities. All you'll
>> do is add more loss:
>> Bigger cavities = higher Q and therefore closer frequency spacing.
>> More cavities = deeper notch and therefore more isolation.
>
>And that's the answer I need.

You might find it easier to build a UHF repeater. With 5MHz spacing,
the cheap mobile duplexers will work with low power (<25w) radios.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2143. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 18:02:58 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3j8kh$b4s$1@news.jpl.nasa.gov>
Source record: 3945

On 8/29/2011 5:50 PM, Jeff Liebermann wrote:
> On Mon, 29 Aug 2011 10:23:48 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:
>
>
> Well, not having the antenna prevented me from doing much.

True enough..

> Incidentally, I don't consider it my job to supply test data for MFJ.
> MFJ should run the tests and post both the procedures and test
> results.

Why should they bother. They have someone do a design that seems to work acceptably well, and they sell it at a bargain price. You want published test data and test procedures and it costs more. I'm sure the Tessco catalog has something of comparable performance that comes with test data (heck, you could have the mfr test the very serial number unit they're shipping to you, for a price<grin>)

>
> Yep, I've done that. On a good day, I'll get 20dB directivity, which
> isn't so great.
> <http://www.qsl.net/n9zia/24swr/index.html>

but sufficient for measuring Z of an antenna, if that's the route you want to go.

> I prefer a reflection coefficient bridge, as in:
> <http://pe2er.nl/wifiswr/>
> I've built several of these. It won't tell you whether the antenna is
> inductive or cazapitive, but will supply the VSWR (actually, the
> reflection coefficient).
>
>> An impedance measuring system along the lines of the "3 meter" technique
>> (where you have a known L or C in series) is a possibility.
>
> Pardon my ignorance, but what's that?

More common in power electronics, but basically you put the UUT in series with a known reactance and known resistance, and measure the voltages across all three. Then you can solve for the resistance and reactance of the unknown. Back in the day, this was solved graphically, but these days, you can do with a spreadsheet or calculator. The trick is that there are often 2 possible solutions, but usually, only one is "reasonable".

>
> True. I should have tested my model to verify my allegations. Perhaps
> I should also do indoor/outdoor tests, in various environmental
> situations, in the presence of interference, and with a side by side
> comparison with other antennas. Yeah, that would be great, but I
> don't have that much time (or money). I threw together an NEC2 model
> that suggested that the antenna is mis-designed and left it there.
>
> I didn't include the feedline in my model, which due to the lack of a
> balun (I don't consider the ferrite bead to be a balun due to the high
> frequency) will radiate and produce weird patterns. Never mind the
> fairly large lengths of exposed conductors at both ends of the coax
> cable. I'm not sure exactly what a 200 ohm antenna in a 50 ohm system
> will do. 300 ohms in a 50 ohm system is a 6:1 VSWR and a 3.1 dB
> mismatch loss. So what if we loose half the power in the mismatch.

Yeah, but I'll bet the transmitter in a WiFi node doesn't have a
particularly good match either.. so you could come out better or worse.
3dB loss on top of 15dBi gain is still a net of 12dB over whatever
little antenna there was before (if it was even 0dBi)

>> 4-6cm of transmission line is a good fraction of a wavelength. How do
>> you know it's not 3/4 lambda of 75 or 92 ohm line, or something like
>> that. (1/4 wavelength of 75 ohms would transform 200 ohms to about 30
>> ohms, for instance)
>
> The owner of the antenna measured the coax cable dimensions. From
> that, we determined that it was 50 ohms coax.

OK.. then so much for that idea..

>> I've worked with enough UHF and microwave antennas with weird funky
>> feedpoint things to not trust in first impressions. There could be all
>> sorts of parasitics that help the situation out, and they're tough to
>> model accurately (you're certainly not going to do it with NEC, for
>> instance.. I'd trust NEC for the feedpoint impedance without
>> matching/balun/stubs..)
>
> Well, that's what my model did. The characteristic impedance of the
> model is set to 200 ohms at the folded dipole. No matching network
> involved. See:
> <http://802.11junk.com/jeffl/antennas/mfj1800/slides/VSWR.html>
> and note the 200 ohms in the upper left of the VSWR graph.
>
>> Yeah, it's probably not a nice 1:1 match over the entire band, but then,
>> most antennas aren't.
>
> Look again at the graphs.
> <http://802.11junk.com/jeffl/antennas/mfj1800/slides/VSWR.html>
> It's absolutely gorgeous across the band. Less than 1.3:1 from 2400
> to 2483.5. I would also have expected a much more narrow band antenna
> and was very surprised at the wide bandwidth. That's not normal for a

> high gain yagi.

well.. good match at 200 ohms... I was thinking 50 ohms, so it's equally
sucky over the entire band.

80 MHz out of 2400 is, what, about 3% BW? that's like 5MHz on a 2m antenna.

these sort of yagis actually are fairly broadband. Note that all the
directors are the same length, too. What they don't typically get is a
lot of gain for the length.

>
>> It just has to be "good enough" and in that
>> business, the loss in the feedline probably dominates anyway. Figure 3
>> dB of loss in the feedline, and you get a 6B improvement in return loss.
>
> Yep. That's why I measure VSWR at the antenna, not the source. I
> like to use LMR-400 with 6.6dB loss per 100ft. 3dB loss would be
> about 50 ft of coax cable, which is MUCH longer than I would use at
> 2.4GHz. Also, I'm partial to putting the radio next to the antenna,
> which reduces coax losses to nearly zero.

yeah, but using LMR-400 with that $20 antenna wouldn't necessarily be
the expected application. It's sold as a "laptop range enhancer" for
the most part, and I'd expect 3-6 ft of some small (lossy) flexible
stuff. I'd worry about the LMR-400 bending the antenna.

>
>> The model you have shows a beamwidth around 30 degrees (H) and 28
>> degrees (V).. that's a directivity around 16 dBi
>
> Yep. For the benefit of those trying to follow all this, see the
> numbers in red at the right:
> <http://802.11junk.com/jeffl/antennas/mfj1800/slides/Horiz.html>
> Incidentally, notice the asymmetrical pattern, caused by the off
> center line position of the copper folded dipole driven element.
>
>> 4NEC2 is giving you 14dB gain.. that's moderately consistent, although 2
>> dB is something I'd want to figure why the difference.
>
> The 2dB is from the -2dB gain in the reverse direction (180 deg).
> 14dB forward gain. -2dB reverse gain. 14 - (-2) = 16dB directivity.
> I don't see a problem.

Oh.. I didn't see that.. so the beamwidth and directivity are
consistent. Nice that back of the envelope estimation theory works.

>
>> I'd want to
>> figure out why 2dB different, especially since you didn't put resistive
>> loading into your model, which, at 2.4GHz *will* make the match better
>

> Ummm... why would I need a load? I'm only interested in what the
> antenna looks like to whatever I connect to the terminals. If I
> included the generator source impedance in the model, I would have to
> also include the generator output impedance characteristics,
> connecting cables, and possibly some manner of 4:1 xformer.

The elements are lossy, aren't they? That will improve the match (and
reduce the gain). Sort of the same idea as the Terminated folded
dipole.. add loss, improve match. And just like for that kind of
application, I think what they're selling here is "some gain, and some
directivity, at very low price"

>
>>>> I realize we can all assume the antenna impedance is 50 ohms, but is it actually
>>>> stated in any of the specifications from MFJ? I didn't see any mention of
>>>> impedance specification at all for this antenna, but I could only find
>>>> information on the web page at the link you provided as well as in the pdf file
>>>> of the instructions for the MFJ-1800. The instructions are rather sparse.
>>>
>>> Good point. One can assume that if it uses a 50 ohm coax pigtail, a
>>> 50 ohm N connector, and is designed to connect to a wireless device
>>> that presents 50 ohms, it just might need to be a 50 ohm antenna.
>
>> Nope.. not if the feedline is a couple dB loss (which wouldn't be
>> unusual for a laptop pigtail using RG-174 or smaller).. All they really
>> care about in this kind of application is the directivity.
>
> Maybe. Using coax loss to improve VSWR is an old trick. Whether it's
> being done intentionally is debatable. I prefer to assume that if all
> the major components are 50 ohms, then perhaps the antenna should also
> be 50 ohms.

I wouldn't.. For that matter, the source impedance probably isn't 50
ohms in the box its connected to. Just looking over some MMIC data
sheets I have here, it looks like they have 2:1 as a worst case and
1.5:1 typical..

This kind of stuff isn't designed like high performance RF systems. They
pick the cheapest amplifier, often don't care much about DC power
efficiency, and cobble up some sort of output filter that keeps the
spurious down low enough to meet Part 15. It's not like specsheets for
consumer WiFi gear actually give you power "at the connector" or
radiated power. All they care is that they don't bust the FCC limits,
and not be "too low" that they'll get consumer complaints.

>> I wouldn't take the fact that it has a 50 ohm
>> connector as indicating anything other than it's a common connector that
>> people are likely to have mating connectors for.
>
> Ok, I'll conceded that there's a possibility that there's some
> matching magic going on behind the curtains, that's not visible to
> mere mortals. Lacking the necessary insight, I prefer to judge based
> on what I can see, feel, touch, understand, and test.

No.. I think its not that they think they have a good match, I think
they just don't care, because in the application, it's "good enough".
They're not designing a deep space communication link where they have to
eke out every last hundredth of a dB to get that 10bps through.

2144. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 18:14:31 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj5qa47.ege.nomail@xs8.xs4all.nl>
Source record: 3944

Jim Lux <james.p.lux@jpl.nasa.gov> wrote:
> Any reason why you're using a split of 600kHz? Why not go to a
> non-standard split to make life easier. Pick two frequencies 3 MHz apart
> (assuming you can get them coordinated, which is more a political than a
> technical issue)

Don't forget that in Region 1, the 2M band is only 2 MHz wide, the
bottom 500 kHz is dedicated to SSB and the top 200 kHz is for satellite.

2145. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 19:13:57 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3jcplihc1@news.jpl.nasa.gov>
Source record: 3946

On 8/30/2011 11:14 AM, Rob wrote:
> Jim Lux<james.p.lux@jpl.nasa.gov> wrote:
>> Any reason why you're using a split of 600kHz? Why not go to a
>> non-standard split to make life easier. Pick two frequencies 3 MHz apart
>> (assuming you can get them coordinated, which is more a political than a
>> technical issue)
>
> Don't forget that in Region 1, the 2M band is only 2 MHz wide, the
> bottom 500 kHz is dedicated to SSB and the top 200 kHz is for satellite.

Sure, that does make it harder. The OP is in region 2, though, where
there's 4 MHz theoretically available)

<flame protective suit on> And of course, a lot of the band plans are
basically gentlemen's agreements and have no force of law. As long as
you don't interfere with someone (challenging in some geographical
locations), you can pretty much do what you want.<flame suit off>

I wouldn't want to put input or output on 144.2, for instance.

But looking at the ARRL band plan, you could put your input up at
147.6-147.99 and put your output at 145.5-145.8 (Misc and experimental,
per ARRL).. not quite 3 MHz, but close, and a whole lot better than 600kHz.

Here in the Los Angeles area, either TASMA or the anti-TASMA folks would
probably round up people to have you tarred, feathered and run out of
town on a rail, no matter what you do. In any case, things move so
slowly that unless you were hideously inconsiderate and egregiously
interfering, you could probably run for a year or more before it would
get too nasty.

There is a 147.585/144.930 pair labeled for "portable repeater" in the
TASMA plan (max 72 hrs/month).. that's 2.5 MHz apart (to make filtering
easier). They also say 144.310-144.375 is for simplex unchannelized,
but I've not heard much on the air there..for an experiment, it would
probably work.

2146. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 20:04:48 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3jfnh$c9q$1@dont-email.me>
Source record: 3947

"Geoffrey S. Mendelson" <gsm@mendelson.com> wrote in message
news:slrnj5q1ub.cg4.gsm@cable.mendelson.com...

< snip >

>
> Geoff.
>

If your intent is to experiment with the cheap duplexer, what I have to offer is irrelevant. However, if you aim to build a repeater, consider getting your isolation over distance (much greater than 10m). Put the transmitter and receiver a few km apart and link them using another band authorized in your area (440?).

I encountered this in Key West Florida some years ago. Worked fine there.

"Sal"

2147. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 20:20:20 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj5qhg4.8o9.nomail@xs8.xs4all.nl>
Source record: 3948

Jim Lux <james.p.lux@jpl.nasa.gov> wrote:
> On 8/30/2011 11:14 AM, Rob wrote:
>> Jim Lux<james.p.lux@jpl.nasa.gov> wrote:
>>> Any reason why you're using a split of 600kHz? Why not go to a
>>> non-standard split to make life easier. Pick two frequencies 3 MHz apart
>>> (assuming you can get them coordinated, which is more a political than a
>>> technical issue)
>>
>> Don't forget that in Region 1, the 2M band is only 2 MHz wide, the
>> bottom 500 kHz is dedicated to SSB and the top 200 kHz is for satellite.
>
> Sure, that does make it harder. The OP is in region 2, though, where
> there's 4 MHz theoretically available)

I think he is in Region 1. He posts with 2 callsigns, one is a 4X1
(Israel) and mentions:

but my 2m band is only 144-146
mHz, and the repeater portion is really just 145-146.

> <flame protective suit on> And of course, a lot of the band plans are
> basically gentlemen's agreements and have no force of law. As long as
> you don't interfere with someone (challenging in some geographical
> locations), you can pretty much do what you want.<flame suit off>

Sure, but to get a permit for unattended operation, at least over here,
you'll need to abide to the band plans.

(in fact in my country, Netherlands, it is even worse: the repeater
frequencies are not coordinated by the ham community itself, but by
the equivalent of the FCC. they work strictly by a set of rules
originally drafted by the amateur societies, in the days the bands
were still overcrowded. arbitrary figures were put in those rules
regarding things like minimal desirable distance between repeaters,
maximum height of antennas, maximum EIRP power, that were originally
just there to regulate the inflow of new repeater projects a bit, so
everyone would have a fair chance of running a repeater. if you were
a few km too close, had an antenna a bit high, or similar, it usually
wasn't a problem. but one day an amateur who got refused a license
went to court claiming that others had gotten a license while not being
within the rules, and as a reaction the authority now strictly follows
the rules and refuses every application that does not fully conform to
all the rules. of course, operating on one of the reserved repeater
channels is one of the rules.)

2148. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 20:26:53 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj5qhsd.8o9.nomail@xs8.xs4all.nl>
Source record: 3949

Sal <sobars@aol.com> wrote:
>
> "Geoffrey S. Mendelson" <gsm@mendelson.com> wrote in message
> news:slrnj5q1ub.cg4.gsm@cable.mendelson.com...
>
>
> < snip >
>
>>
>> Geoff.
>>
>
> If your intent is to experiment with the cheap duplexer, what I have to
> offer is irrelevant. However, if you aim to build a repeater, consider
> getting your isolation over distance (much greater than 10m). Put the
> transmitter and receiver a few km apart and link them using another band
> authorized in your area (440?).
>
> I encountered this in Key West Florida some years ago. Worked fine there.

It is done here on 10m, where the duplex offset is only 100 kHz and
a duplexer is physically very large.

However, what I hear from the repeater team is that one is in fact
building and maintaining 2 repeaters, doubling the chance of any faults
and problems. Setting up the 10m repeater was much more work than
everyone envisioned, and many had experience on 70cm etc.

2149. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 22:13:45 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3jnap$5g9$1@news.jpl.nasa.gov>
Source record: 3851

On 8/30/2011 1:26 PM, Rob wrote:
> Sal<sobars@aol.com> wrote:
>>
>> "Geoffrey S. Mendelson"<gsm@mendelson.com> wrote in message
>> news:slrnj5q1ub.cg4.gsm@cable.mendelson.com...
>>
>>
>> < snip>
>>
>>>
>>> Geoff.
>>>
>>
>> If your intent is to experiment with the cheap duplexer, what I have to
>> offer is irrelevant. However, if you aim to build a repeater, consider
>> getting your isolation over distance (much greater than 10m). Put the
>> transmitter and receiver a few km apart and link them using another band
>> authorized in your area (440?).
>>
>> I encountered this in Key West Florida some years ago. Worked fine there.
>
> It is done here on 10m, where the duplex offset is only 100 kHz and
> a duplexer is physically very large.
>
> However, what I hear from the repeater team is that one is in fact
> building and maintaining 2 repeaters, doubling the chance of any faults
> and problems. Setting up the 10m repeater was much more work than
> everyone envisioned, and many had experience on 70cm etc.

What about VoIP using 802.11 as the link. These days, that might be
easier than trying to cobble up a 440 remote link.

2150. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-30 22:50:54 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3jpegekr1@dont-email.me>
Source record: 3950

"Rob" <nomail@example.com> wrote in message
news:slrnj5qhsd.8o9.nomail@xs8.xs4all.nl...
> Sal <sobars@aol.com> wrote:
>>
>> "Geoffrey S. Mendelson" <gsm@mendelson.com> wrote in message
>> news:slrnj5q1ub.cg4.gsm@cable.mendelson.com...
>>
>>
>> < snip >
>>
>>>
>>> Geoff.
>>>
>>
>> If your intent is to experiment with the cheap duplexer, what I have to
>> offer is irrelevant. However, if you aim to build a repeater, consider
>> getting your isolation over distance (much greater than 10m). Put the
>> transmitter and receiver a few km apart and link them using another band
>> authorized in your area (440?).
>>
>> I encountered this in Key West Florida some years ago. Worked fine
>> there.
>
> It is done here on 10m, where the duplex offset is only 100 kHz and
> a duplexer is physically very large.
>
> However, what I hear from the repeater team is that one is in fact
> building and maintaining 2 repeaters, doubling the chance of any faults
> and problems. Setting up the 10m repeater was much more work than
> everyone envisioned, and many had experience on 70cm etc.

Yup. Two repeaters. But avoiding "cans" just might be a blessing.

My local club has a repeater using new electronics but an old duplexer.
I hate periodically re-tweaking the duplexer but
I'm the only one with the spec-an/tracking generator, so I'm it.

The repeater maintenance budget will handle a new duplexer soon.
Hallelujah!

Sal

2151. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 00:49:04 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ctvq57t22qsautnsb6n6as7gfnmmji7hfg@4ax.com>
Source record: 3852

On Tue, 30 Aug 2011 13:04:48 -0700, "Sal" <sobars@aol.com> wrote:

>If your intent is to experiment with the cheap duplexer, what I have to
>offer is irrelevant. However, if you aim to build a repeater, consider
>getting your isolation over distance (much greater than 10m). Put the
>transmitter and receiver a few km apart and link them using another band
>authorized in your area (440?).
>
>I encountered this in Key West Florida some years ago. Worked fine there.

How fine is fine?

That last time I did that (about 30 years ago), on a commercial system, there was a huge difference in transmit and receive footprint. Some locations could hear but not talk. Others were the other way around. Either way, the customers were not thrilled. We went back to one antenna per radio.

We then repeated the same mistake with a common receive antenna at the very top of the tower, followed by an RF amp, and then an 8 way splitter. Attach 8 receivers and you only need one RX antenna. Unfortunately, the amplifier was too easily overloaded, and the splitter did not provide sufficient isolation to prevent the local oscillator leakage from creating new receiver spurs. I later added cavities and isolators to solve that problem, which increased the cost sufficiently that 8 TX/RX antennas would have been cheaper. (Except for the tower space rental, but we owned the building and towers). Also, with a single RX antenna on 8 radios, it makes a great single point of failure for lightning hits. It was easy to tell if the RF Amp had taken a hit. The office would simultaneously get dozens of irate service outage calls (These were community repeaters with up to 15 customers per repeater). I would never want to be the top antenna on a tower, no matter what the range benefits.

9 repeater in one rack. Notice the lack of duplexers.
<http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/Santiago-01.html>

Here's the corresponding transmit antenna intermod generator:
<http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn02.html>
The receive antenna is behind me, on top of another telephone pole.

Yet another great idea was to physically separate the transmitter and receiver buildings on a mountain top. That was Verdugo Pk in the San Fernando Valley. Sorry, no photos handy. This had some real advantages, especially at low band (30-50Mhz). The problem was that with all the transmitters jammed into one building, with little

physical isolation among the antennas, there's was considerable intermod caused by the various TX mixes. Since the original justification for this great idea was to solve the intermod problem, this was also loser.

Much as I don't like duplexers, isolators, cavities, lightning arrestors, fat coax, and omni antennas, the combination is the solution that seems to work the best. All the other great ideas are far worse, more expensive, or deficient in some manner.

<http://802.11junk.com/jeffl/pics/Old%20Repeaters/>

Guess what's happening with this antenna problem?
<http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn03.html>
Incidentally, that's where I was cleaning up the mess and almost picked up what I thought was a piece of black coax. It was a snake.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2152. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 03:37:42 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3kaa8$a7r$1@dont-email.me>
Source record: 3853

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:ctvq57t22qsautnsb6n6as7gfnmmji7hfg@4ax.com...
> On Tue, 30 Aug 2011 13:04:48 -0700, "Sal" <sobars@aol.com> wrote:
>
>>If your intent is to experiment with the cheap duplexer, what I have to
>>offer is irrelevant. However, if you aim to build a repeater, consider
>>getting your isolation over distance (much greater than 10m). Put the
>>transmitter and receiver a few km apart and link them using another band
>>authorized in your area (440?).
>>
>>I encountered this in Key West Florida some years ago. Worked fine there.
>
> How fine is fine?

Good question. Coverage was entirely satisfactory over the entire island
and several miles up the Overseas Highway. I never used anything more
exotic than a rubber duck. However, Key West is small and all the keys are
very flat.

"Sal"

2153. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 05:34:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5rho4.6nh.gsm@cable.mendelson.com>
Source record: 3854

Jim Lux wrote:

> Any reason why you're using a split of 600kHz? Why not go to a
> non-standard split to make life easier. Pick two frequencies 3 MHz apart
> (assuming you can get them coordinated, which is more a political than a
> technical issue)

Thanks for the advice and information.

I'm not in the US. 3Mhz split is more than my entire 2m band. :-(

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2154. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 05:39:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5ri3c.6nh.gsm@cable.mendelson.com>
Source record: 3855

Sal wrote:

>
> If your intent is to experiment with the cheap duplexer, what I have to
> offer is irrelevant. However, if you aim to build a repeater, consider
> getting your isolation over distance (much greater than 10m). Put the
> transmitter and receiver a few km apart and link them using another band
> authorized in your area (440?).

Acutally that's the real purpose of the whole experiement. We are looking
at setting up a system of internet linked remote inputs (and possibly
low power local outputs) using Linux and SVXLINK.

Right now the final destination is an Echolink type node (SVXLINK also
acts as an Echolink server), but one of the things we wanted to experiment
with is an actual repeater.

Thanks,

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2155. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 05:59:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5rj9h.6nh.gsm@cable.mendelson.com>
Source record: 3856

Jeff Liebermann wrote:
>
> That last time I did that (about 30 years ago), on a commercial
> system, there was a huge difference in transmit and receive footprint.
> Some locations could hear but not talk. Others were the other way
> around. Either way, the customers were not thrilled. We went back to
> one antenna per radio.

That's basically our problem. The repeater we want to use was developed with the criterea that if you parked your car, turned on your 25 watt or higher radio with a 5/8 wave whip and was able to "kerchunk" the repeater, the area was "covered". This coverage was mapped out around 1990.

Since then population has expanded, new housing has been built and new hams have become licensed. 2011 critera is in order to be covered, a ham with a watt HT has to be able to be understood.

The main repeater in question is able to reach the sea twoard the north west to the southwest (about 35 miles), but can't even be heard 2-3 KM to the north in spots, and has almost no reception to the southeast.

Our proposed solution is not radio links as they are a expensive, need to be mainainted on site, etc. Internet remote receivers are very cheap, for example, an HT an interface to the computer and an old P4 (needs built in ethernet) makes a useable one and costs a couple of dollars a month in electrcity. Obvously the location has to have decent internet bandwidth with 64k bits per second spare.

Performance can be improved with a better radio and antenna, but in some places, there is only one ham that needs to be "covered".

There may even be real money for real equipment later, but not now.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2156. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 06:04:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5rje7.6nh.gsm@cable.mendelson.com>
Source record: 3857

Sal wrote:
>
> Good question. Coverage was entirely satisfactory over the entire island
> and several miles up the Overseas Highway. I never used anything more
> exotic than a rubber duck. However, Key West is small and all the keys are
> very flat.

That's our problem. Jerusalem is high (3,000 feet ASL) and loaded with hills. There are spots in the city where there is no cell phone coverage. The cell phone companies go nuts trying to fill the holes, but there is a lot of NIMBY here.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2157. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 07:09:47 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj5rnhr.gf6.nomail@xs8.xs4all.nl>
Source record: 3858

Jim Lux <james.p.lux@jpl.nasa.gov> wrote:
> On 8/30/2011 1:26 PM, Rob wrote:
>> Sal<sobars@aol.com> wrote:
>>>
>>> "Geoffrey S. Mendelson"<gsm@mendelson.com> wrote in message
>>> news:slrnj5q1ub.cg4.gsm@cable.mendelson.com...
>>>
>>>
>>> < snip>
>>>
>>>>
>>>> Geoff.
>>>>
>>>
>>> If your intent is to experiment with the cheap duplexer, what I have to
>>> offer is irrelevant. However, if you aim to build a repeater, consider
>>> getting your isolation over distance (much greater than 10m). Put the
>>> transmitter and receiver a few km apart and link them using another band
>>> authorized in your area (440?).
>>>
>>> I encountered this in Key West Florida some years ago. Worked fine there.
>>
>> It is done here on 10m, where the duplex offset is only 100 kHz and
>> a duplexer is physically very large.
>>
>> However, what I hear from the repeater team is that one is in fact
>> building and maintaining 2 repeaters, doubling the chance of any faults
>> and problems. Setting up the 10m repeater was much more work than
>> everyone envisioned, and many had experience on 70cm etc.
>
>
> What about VoIP using 802.11 as the link. These days, that might be
> easier than trying to cobble up a 440 remote link.

At first they used (or planned using) an FM link on 23cm, then they
switched to digital voice over 802.11a (6cm), then to 802.11g on 13cm,
and I think they now use a wired internet connection.

2158. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 07:53:04 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <sqpr57dbt8krapijebrn7dljcijuja79pe@4ax.com>
Source record: 3859

On Wed, 31 Aug 2011 05:59:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>Our proposed solution is not radio links as they are a expensive, need to
>be mainainted on site, etc. Internet remote receivers are very cheap,
(...)

You might want to look at:
<http://www.wb6ece.org>
Simulcast and voting from 7 sites with GPS locked oscillators.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2159. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 12:41:25 UTC
From: dave <dave@dave.dave>
Message-ID: <4e5e2bf5$0$5523$bd467cd0@news.dslextreme.com>
Source record: 3860

Geoffrey S. Mendelson wrote:

> Allodoxaphobia wrote:
>>
>> We still don't have a clear description of what the OP is trying to
>> accomplish.
>
> Take two radios, two j-poles and a lot of coax and make a repeater.
> Obviously I will need some sort of controller in between but that's
> irrelevant.
>
> I want to place one J-pole (or similar antenna) at one corner of my garden,
> and another at the other one (10 meters apart).
>
> One will be used to receive a signal, the other to relay it. They both
> will be somewhere on the 144-146mHz band, with the output being a few watts
> with a max of 20.
>
> Besides the distance, I was looking for a cheap way of not having
> the transmitted signal block the receiver. The duplexer in question
> is rated at 75dB isolation with a 3.5mHz split, I can only have .6 mHz.
>
> What I was wondering is that since at a .6mHz split, the isolation will
> be a lot less, can I somehow combine the two sides to make a better
> filter?
>
> Thanks,
>
> Geoff.
>

If you have two antennas you don't need a duplexer. Just notch the
transmit from the receive antenna.

2160. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 12:51:55 UTC
From: greenpjs@neo.rr.com
Message-ID: <mfbs57hgnr4usbd955vnaef7f555mnifqf@4ax.com>
Source record: 3861

On 31 Aug 2011 12:41:25 GMT, dave <dave@dave.dave> wrote:

>Geoffrey S. Mendelson wrote:
>
>> Allodoxaphobia wrote:
>>>
>>> We still don't have a clear description of what the OP is trying to
>>> accomplish.
>>
>> Take two radios, two j-poles and a lot of coax and make a repeater.
>> Obviously I will need some sort of controller in between but that's
>> irrelevant.
>>
>> I want to place one J-pole (or similar antenna) at one corner of my garden,
>> and another at the other one (10 meters apart).
>>
>> One will be used to receive a signal, the other to relay it. They both
>> will be somewhere on the 144-146mHz band, with the output being a few watts
>> with a max of 20.
>>
>> Besides the distance, I was looking for a cheap way of not having
>> the transmitted signal block the receiver. The duplexer in question
>> is rated at 75dB isolation with a 3.5mHz split, I can only have .6 mHz.
>>
>> What I was wondering is that since at a .6mHz split, the isolation will
>> be a lot less, can I somehow combine the two sides to make a better
>> filter?
>>
>> Thanks,
>>
>> Geoff.
>>
>
>If you have two antennas you don't need a duplexer. Just notch the
>transmit from the receive antenna.
I think that is what he is asking. Can he takes his duplexer and use
it as an extra sharp notch filter for his receiver. One "side" is
already set up for that purpose. He is asking if the "side"
originally intended for the transmitter can be used to further filter
the receiver.

2161. duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 16:38:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3lo2qrik1@news.jpl.nasa.gov>
Source record: 3862

One wonders why someone isn't pushing for a digital TDMA scheme for amateurs. You could build a very nice full duplex repeater on a single frequency that way. Sure it's totally incompatible with current FM repeaters, but then, D-star isn't totally compatible either. D-star and it's ilk are sort of half measures in that sense.

No filtering, much less intermod issues in multi station at onee site systems... all kinds of good comes of it.

Digital schemes on HF to replace SSB I can see having real trouble (the biggest is the lack of a "party line" capability, the other is the long propagation delay on HF paths), but on VHF and up FM, you already have a "one person talks at a time" by virtue of the standard FM demodulator.

2162. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 18:49:31 UTC
From: amdx <amdx@knology.net>
Message-ID: <f05a7$4e5e827d$4b4c116f$20474@KNOLOGY.NET>
Source record: 3863

On 8/28/2011 9:14 AM, Renee wrote:
> On Sat, 27 Aug 2011 21:22:32 -0700, Jeff Liebermann<jeffl@cruzio.com> wrote:
>
>> On Sat, 27 Aug 2011 21:40:29 -0500, tom<news4792@taring.org> wrote:
>>
>>> The majority of what they sell does exactly what it's advertised to do.
>>> You have to read the specs.
>>
>> Generally true. However, I spent some time modeling the MFJ-1800
>> 2.4GHz antenna and came the conclusion that it's not even close to 50
>> ohms and more like 300 ohms. I guess they forgot to include a balun:
>> <http://www.mfjenterprises.com/Product.php?productid=MFJ-1800>
>> <http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
>> While one screwup is not sufficient to claim that the entire product
>> line is lacking, it does make me very suspicious and wary.
>
> I'm curious, did you do any measurement and testing with an analyzer, etc., or
> are all the figures simply calculated estimates?
>
> Has anyone confirmed what the piece is that connects the driven element with the
> coax connector that looks to be a short piece of coax covered in heat shrink?
> Has anything been found or measured hiding under the heat shrink?
>

The coax is RGS-303, 50 ohm coax. PTFE center insulator, FEP jacket.
http://wireandcable.thermaxcdt.com/item/high-performance-coaxial-cabl...
The coax has 4 toroids slid over it.
Mikek

2163. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 18:57:31 UTC
From: amdx <amdx@knology.net>
Message-ID: <740d9$4e5e83d7$4b4c116f$28476@KNOLOGY.NET>
Source record: 3864

On 8/27/2011 11:22 PM, Jeff Liebermann wrote:
> On Sat, 27 Aug 2011 21:40:29 -0500, tom<news4792@taring.org> wrote:
>
>> The majority of what they sell does exactly what it's advertised to do.
>> You have to read the specs.
>
> Generally true. However, I spent some time modeling the MFJ-1800
> 2.4GHz antenna and came the conclusion that it's not even close to 50
> ohms and more like 300 ohms. I guess they forgot to include a balun:
> <http://www.mfjenterprises.com/Product.php?productid=MFJ-1800>
> <http://802.11junk.com/jeffl/antennas/mfj1800/index.html>
> While one screwup is not sufficient to claim that the entire product
> line is lacking, it does make me very suspicious and wary.
>

Hi Jeff,
I see MFJ now has a Bi-Quad 12dbi antenna.
http://www.mfjenterprises.com/Product.php?productid=MFJ-1804
If I send the the dimensions....
Just kidding!
Thanks for all the work.
Mikek

2164. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 19:51:21 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3m3b4bkb1@dont-email.me>
Source record: 3865

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:ahfj579fbo3t2jpecp57dohlhvd024dgu6@4ax.com...

< snip >
> ... I spent some time modeling the MFJ-1800
> 2.4GHz antenna and came the conclusion that it's not even close to 50
> ohms and more like 300 ohms.

< snip >

> While one screwup is not sufficient to claim that the entire product
> line is lacking, it does make me very suspicious and wary.

Oh, they have their problems!

I picked up an MFJ-949E manual HF tuner at a local swap meet . At home, I opened it to give it the once-over. Good on me. Most of the nuts and bolts in the RF path were quite loose and none of them were completely tight -- and we're talking about my using a nut driver with three fingertips, not a lug wrench with two hands.

"Sal"

2165. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 20:05:43 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j3m46q$i27$1@dont-email.me>
Source record: 3866

On 8/31/2011 2:51 PM, Sal wrote:
> I picked up an MFJ-949E manual HF tuner at a local swap meet . At home, I
> opened it to give it the once-over. Good on me. Most of the nuts and bolts
> in the RF path were quite loose and none of them were completely tight --
> and we're talking about my using a nut driver with three fingertips, not a
> lug wrench with two hands.

And I assume you bought it used. I don't remember seeing
MFJ vendors at the swap meet. So.... The hardware was loose.
You don't know for a fact that it came from MFJ that way.

Or, the original purchaser had no idea why it didn't work
when he bought it new and sold it without any comment other
than "New in the box".

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2166. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 20:10:39 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j3m4g1$jr4$1@dont-email.me>
Source record: 3867

On 8/29/2011 7:50 PM, Jeff Liebermann wrote:
> Incidentally, I don't consider it my job to supply test data for MFJ.
> MFJ should run the tests and post both the procedures and test
> results.

And the newest innovation in dish antennas...
<http://thereifixedit.files.wordpress.com/2011/08/white-trash-repairs-seems-legit.jpg>

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2167. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 20:11:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iv4t5795glgtu8md53nbeefjo432qdujq7@4ax.com>
Source record: 3868

On Wed, 31 Aug 2011 12:51:21 -0700, "Sal" <sobars@aol.com> wrote:

>At home, I
>opened it to give it the once-over. Good on me. Most of the nuts and bolts
>in the RF path were quite loose and none of them were completely tight

If there were/are no starwashers/lockwashers; then bad on you - you
will be doing this again.

73's
Richard Clark, KB7QHC

2168. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 20:24:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5t5u4.7gc.gsm@cable.mendelson.com>
Source record: 3869

Richard Clark wrote:
>
> If there were/are no starwashers/lockwashers; then bad on you - you
> will be doing this again.

I had that happen with an SO-239 connector on the back of an MFJ tuner.
One of the pop rivets was loose, possibly from the factory, more likely
from being banged around my home.

I drilled out the pop rivets on that connector (the others were all fine)
and replaced them with bolts, nuts and lockwashers. It's fine now.

While we are talking about MFJ products, I had a 20 meter CW rig from them
that I bought in 1995 stop receiving properly in 2010. I filled out a
"support request" on their website and the guy who designed it sent me an
email.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2169. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 20:33:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3m5rfkll1@news.jpl.nasa.gov>
Source record: 3870

On 8/31/2011 1:11 PM, Richard Clark wrote:
> On Wed, 31 Aug 2011 12:51:21 -0700, "Sal"<sobars@aol.com> wrote:
>
>> At home, I
>> opened it to give it the once-over. Good on me. Most of the nuts and bolts
>> in the RF path were quite loose and none of them were completely tight
>
> If there were/are no starwashers/lockwashers; then bad on you - you
> will be doing this again.
>
A drop of anaerobic threadlocker would be a better solution. Most
commercially manufactured equipment these days doesn't use lockwashers
for good reason, unless it's a "heritage design" where they're counting
on the thickness of the washer or something like that.

Picking the right chemical is important (wicking vs non-wicking, various
break strengths, various cure times, etc.). Don't use Loctite 241 red on
4-40 hardware you ever want to remove.. it's stronger than the metal..
the green 290 is great stuff for "post assembly" use.

2170. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 21:52:16 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <stydnULAR4WUMMPTnZ2dnUVZ_hGdnZ2d@earthlink.com>
Source record: 3871

"Jeffrey Angus" <grendelair@aim.com> wrote in message
news:j3m46q$i27$1@dont-email.me...
> On 8/31/2011 2:51 PM, Sal wrote:
>> I picked up an MFJ-949E manual HF tuner at a local swap meet . At home,
>> I
>> opened it to give it the once-over. Good on me. Most of the nuts and
>> bolts
>> in the RF path were quite loose and none of them were completely tight --
>> and we're talking about my using a nut driver with three fingertips, not
>> a
>> lug wrench with two hands.
>
> And I assume you bought it used. I don't remember seeing
> MFJ vendors at the swap meet. So.... The hardware was loose.
> You don't know for a fact that it came from MFJ that way.
>
> Or, the original purchaser had no idea why it didn't work
> when he bought it new and sold it without any comment other
> than "New in the box".
>
> Jeff-1.0
> wa6fwi

A good number of years ago I bought the MFJ-948 tuner. It was bought new from a large dealer at a hamfest. Same thing. It raddled when I got it home. Atleast one nut if not more was loose in the box. I had to tighten many of the screws/nuts in it before I put it on the air.
I compaired the wattmeter to a Bird and a good dummy load. It was way off. When calibrated on one band, it would be way off on another. Finally calibrated for 20 meters and let it go at whatever on the other bands. All I ineeded for is to watch the reflected power and tune for minimum. I have several other meters to actually check the power if I need to.

The only other MFJ item I have owned was a 1270 Packet unit. First one was bad out of the box, but to their credit, when I called, they shipped me a new one and I got it in about two days. I sent the other one back. The new one worked as I expected it to as long as I had the packet station going.

2171. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 22:03:38 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j3mb4u$5tk$2@dont-email.me>
Source record: 3872

On 8/31/2011 3:24 PM, Geoffrey S. Mendelson wrote:
> Richard Clark wrote:
>>
>> If there were/are no starwashers/lockwashers; then bad on you - you
>> will be doing this again.
>
> I had that happen with an SO-239 connector on the back of an MFJ tuner.
> One of the pop rivets was loose, possibly from the factory, more likely
> from being banged around my home.
>
> I drilled out the pop rivets on that connector (the others were all fine)
> and replaced them with bolts, nuts and lockwashers. It's fine now.
>
> While we are talking about MFJ products, I had a 20 meter CW rig from them
> that I bought in 1995 stop receiving properly in 2010. I filled out a
> "support request" on their website and the guy who designed it sent me an
> email.
>
> Geoff.
>

Oh, good. So that made the receiver operate again?

John S

2172. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 22:13:10 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j3mbmp$5tk$3@dont-email.me>
Source record: 3873

On 8/27/2011 9:40 PM, tom wrote:
> On 8/27/2011 7:33 PM, BillyBobMarley wrote:
>>
>> MFJ = Mighty Fine Junk
>
> If this is your opinion you can't evaluate hardware worth bleep.
>
> The majority of what they sell does exactly what it's advertised to do.
> You have to read the specs. And read the reviews carefully because the
> hams who post that can't make the items work are often just ignorant or
> incompetent.
>
> It is not the best available, but it is often good enough.
>
> tom
> K0TAR

I agree with you, Tom, mostly. However, about 10 years ago I bought an MFJ 259B. I thought when it said it measured impedance, it meant magnitude and angle. When I called them, they said NO. They thought impedance meant absolute magnitude. It was a great disappointment.

Within a few weeks, it became erratic at some frequencies. I bought other equipment to check it out and found that the 259B was pretty much lying to me.

It is now in my junk bin.

Don't ask me about the headphones I got from them.

John KD5YI

2173. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 22:19:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F5354A53D8B7nonenowhere@88.198.244.100>
Source record: 3874

"Sal" <sobars@aol.com> wrote in news:j3m3b4bkb1@dont-email.me:

>
> I picked up an MFJ-949E manual HF tuner at a local swap meet . At
> home, I opened it to give it the once-over. Good on me. Most of the
> nuts and bolts in the RF path were quite loose and none of them were
> completely tight -- and we're talking about my using a nut driver
> with three fingertips, not a lug wrench with two hands.

Always a risk buying used ATUs. As noted earlier, it is easy enough to do permanent damage to a '949E with a 100W transmitter.

Re the loose nuts... so you got one that look like it is factory fresh. Loose nuts, nuts floating around loose in the case and loose lumps of solder are commonly reported in new product, mine was that way (a few blobs of solder and a spare nut).

Is it unfair to say that buying some MFJ products is a bit like buying an unfinished kit?

Now for something constructive, now that you have put the case back together.

Would you like the PEP meter function to work properly (instead of 'truly'). There is provision for a transistor and couple of related parts, <50c worth in all, that are not fitted to the board, presumably as a cost saving measure. If you populate those parts, the think WILL require 12V for the PEP function, but it will work properly, well pretty well.

Unfortunately, it is a half hour job to fit the parts post production.

Owen

2174. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-08-31 23:38:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <neht57pk4t866cvibel0u5ff29lb2p89lo@4ax.com>
Source record: 3875

On Wed, 31 Aug 2011 13:33:51 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Most
>commercially manufactured equipment these days doesn't use lockwashers
>for good reason

Ed McMahon: "How hot was it???"

73's
Richard Clark, KB7QHC

2175. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 01:57:37 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3mopegge1@dont-email.me>
Source record: 3876

"Jeffrey Angus" <grendelair@aim.com> wrote in message
news:j3m46q$i27$1@dont-email.me...
> On 8/31/2011 2:51 PM, Sal wrote:
>> I picked up an MFJ-949E manual HF tuner at a local swap meet . At home,
>> I
>> opened it to give it the once-over. Good on me. Most of the nuts and
>> bolts
>> in the RF path were quite loose and none of them were completely tight --
>> and we're talking about my using a nut driver with three fingertips, not
>> a
>> lug wrench with two hands.
>
> And I assume you bought it used. I don't remember seeing
> MFJ vendors at the swap meet. So.... The hardware was loose.
> You don't know for a fact that it came from MFJ that way.
>
> Or, the original purchaser had no idea why it didn't work
> when he bought it new and sold it without any comment other
> than "New in the box".

Not new, no box and the unknowns dominate. I got no information from the prior owner (SK). I also don't know for sure that it left MFJ without lock washers. I don't know if it spent any time bouncing around in a car or truck.

My remarks were not intended as an overarching expos&#65533; of MFJ gear.

"Sal"

2176. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 02:05:01 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3mp78ikt1@dont-email.me>
Source record: 3877

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:iv4t5795glgtu8md53nbeefjo432qdujq7@4ax.com...
> On Wed, 31 Aug 2011 12:51:21 -0700, "Sal" <sobars@aol.com> wrote:
>
>>At home, I
>>opened it to give it the once-over. Good on me. Most of the nuts and
>>bolts
>>in the RF path were quite loose and none of them were completely tight
>
> If there were/are no starwashers/lockwashers; then bad on you - you
> will be doing this again.
>
> 73's
> Richard Clark, KB7QHC

It's been over a year. Maybe now?

(It's not like I don't have the washers. :-)

2177. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 02:43:49 UTC
From: tom <news4792@taring.org>
Message-ID: <4e5ef165$0$79796$8046368a@newsreader.iphouse.net>
Source record: 3878

On 8/30/2011 5:13 PM, Jim Lux wrote:
>
> What about VoIP using 802.11 as the link. These days, that might be
> easier than trying to cobble up a 440 remote link.

Joy!

I am going to sit back and see how this suggestion evolves.

tom
K0TAR

2178. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 03:21:19 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <lfut57lqs754kve20crg5hucmplasb2tcj@4ax.com>
Source record: 3879

On Wed, 31 Aug 2011 15:10:39 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>And the newest innovation in dish antennas...
><http://thereifixedit.files.wordpress.com/2011/08/white-trash-repairs-seems-legit.jpg>
>Jeff-1.0
>wa6fwi

I like mine better:
<http://802.11junk.com/jeffl/antennas/Dish-wood/>
Just add aluminum foil and a feed.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2179. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 03:55:57 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <oout57p951jot3t18uhud874fc92upqrfe@4ax.com>
Source record: 3880

On Wed, 31 Aug 2011 13:57:31 -0500, amdx <amdx@knology.net> wrote:

> Hi Jeff,

Likewise. alt.internet.wireless appears to be dead. Oh well.
Thanks for posting the info on the coax cable in the MFJ-1800. I
couldn't find the applicable message with Google Groups.

> I see MFJ now has a Bi-Quad 12dbi antenna.
>http://www.mfjenterprises.com/Product.php?productid=MFJ-1804
>If I send the the dimensions....

Ummm.... please don't do that.

> Just kidding!

Whew!

Interesting MFJ-1804 biquad antenna. In order to get 12dBi gain out
of something like that, it would either need to be 2 biquads and some
kind of power splitter, or one of those extended biquads as in:
<http://www.larsen-b.com/Article/201.html>
or the overkill version at:
<http://www.digdice.com/diy-wifi-antenna-double-dual-biquad-16-17-dbi/>
or maybe a biquad-yagi conglomeration:
<http://www.digdice.com/biquad-yagi-24ghz-antenna/>
Of course, MFJ supplies no specs, no manual, no dimensions, no test
results, no test procedures, no graphs, and no clue what's inside. For
$60, I would expect better, especially since I can buy something as
good or better for much less:
<http://www.l-com.com/item.aspx?id=21808> (3 element loop yagi)
<http://www.ebay.com/itm/170628411340> (4 element patch ant)

Looks like MFJ has a line of 2.4Ghz products, that don't seem to be
easily found on the product listing pull-down.
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1800>
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1801>
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1802>
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1804>
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1805>

> Thanks for all the work.
> Mikek

Y'er welcome.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060

```
# 831-336-2558
# http://802.11junk.com jeffl@cruzio.com
# http://www.LearnByDestroying.com AE6KS
```

2180. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 04:03:49 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <1j0u57dcujet36e0i2tes1b3g28g4gvtir@4ax.com>
Source record: 3881

On Wed, 31 Aug 2011 12:51:21 -0700, "Sal" <sobars@aol.com> wrote:

>Oh, they have their problems!

Yep. And when you buy one of their problems, it becomes your problem.

>I picked up an MFJ-949E manual HF tuner at a local swap meet . At home, I
>opened it to give it the once-over. Good on me. Most of the nuts and bolts
>in the RF path were quite loose and none of them were completely tight --
>and we're talking about my using a nut driver with three fingertips, not a
>lug wrench with two hands.

I had a similar experience. I friend loaned me some monstrous MFJ
antenna tuner, probably just to get it out of his crowded shack. I
tried to characterize the tuner to see what it would do, and
immediately ran into stability issues. I couldn't get consistent
sweeps and measurements. I eventually beat on the case and noticed
that the scope traces were moving. That was traced to numerous loose
screws and to marginal solder connections. It took a while to get
everything tightened down properly. That fixed the stability problem.
Even fixed, it took me another month or so get convince my friend to
take it back. I don't really need a kilowatt tuner for my 100w
radio(s).

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2181. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1314856800@panix.com>
Source record: 3882
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

2182. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 06:04:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5u829.gr9.gsm@cable.mendelson.com>
Source record: 3883

tom wrote:

> I am going to sit back and see how this suggestion evolves.

Look at SVXLINK. It's an open source package that runs on Linux (and possibly BSD) that does exactly that.

It includes support for remote receivers (with a voting option), remote transmitters, and an echolink server.

We plan to use it with hard wired internet links, but who knows, an 802.11 link could work. Unlike the US we are restricted to 100mW EIRP, so no gain antennas, etc, to make things work better.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2183. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 06:09:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5u871.gr9.gsm@cable.mendelson.com>
Source record: 3884

John S wrote:

> Oh, good. So that made the receiver operate again?

Yes, I read it the email, it was able to get over it's seperation anxiety
and move on. :-)

Seriously, it helped me fix the problem. I just never spent a lot of time
with it after that, someone offered me a Drake SPR-4, and I traded it.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2184. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 06:09:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5u8al.gr9.gsm@cable.mendelson.com>
Source record: 3885

Jim Lux wrote:

> A drop of anaerobic threadlocker would be a better solution. Most
> commercially manufactured equipment these days doesn't use lockwashers
> for good reason, unless it's a "heritage design" where they're counting
> on the thickness of the washer or something like that.
>
> Picking the right chemical is important (wicking vs non-wicking, various
> break strengths, various cure times, etc.). Don't use Loctite 241 red on
> 4-40 hardware you ever want to remove.. it's stronger than the metal..
> the green 290 is great stuff for "post assembly" use.

This is the grounding of an antenna coax to the chassis of a tuner. The wrong stuff in the wrong place would be a disaster. At least with lockwashers, I know there will be a good contact.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2185. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 07:58:45 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj5uepl.loo.nomail@xs8.xs4all.nl>
Source record: 3886

Geoffrey S. Mendelson <gsm@mendelson.com> wrote:
> We plan to use it with hard wired internet links, but who knows, an 802.11
> link could work. Unlike the US we are restricted to 100mW EIRP, so no
> gain antennas, etc, to make things work better.

Do you have a transmit ban on 802.11 channels in 4X too?

We as hams in the Netherlands are no longer allowed to transmit above
2400 MHz except to an amateur satellite.

2186. Re: Chinese duplexers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 08:24:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj5ug7n.pt8.gsm@cable.mendelson.com>
Source record: 3887

Rob wrote:
>
> Do you have a transmit ban on 802.11 channels in 4X too?
>
> We as hams in the Netherlands are no longer allowed to transmit above
> 2400 MHz except to an amateur satellite.

There is a limit of 100mW EIRP for 2400-2450 mHz for terrestrial use,
with a limit of 100W EIRP to satellites in the 2400-2402 mHz part of the
band. This is from a document on the Ministry of Communicatons website,
dated 1999. It has been unchanged except for the addition of 7.100-7.200 mHz
so they never bothered to update it.

The difference between a 100mW limit and an outright ban in practice is
very little IMHO.

For example, you can turn off encryption and use a WiFi device as a packet
radio, or you can call CQ on your cordless phone. :-(

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2187. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 11:43:46 UTC
From: Clifford Heath <foo@bar.com>
Message-ID: <SdK7q.4639$mA3.1268@newsfe19.iad>
Source record: 3888

On Tue, 30 Aug 2011 09:03:33 +0200, Helmut Wabnig wrote:
> I wonder how important matching is for a pure direction finding antenna,

I don't think it affects sensitivity, which is not really at a premium anyhow.

A gamma match seems to skew forward-max location a bit to one side, which matters if you're relying on accurate bearings from a distance, but overall it doesn't matter much - in some ways it's better to expect to spiral in on the fox a little anyhow, I reckon.

The gamma match also goes wonky if you put your hand on it, but I guess that's not surprising. many of the top competitors use them anyhow - we have a design that's easy to disassemble to put into a suitcase for air travel.

One of the guys built a much-enhanced version of the NEC software for the Mac, and he's automated it to automatically optimise (millions of individual runs with different combinations) a 7-element boom for 70cm, which is yielding very impressive DF results right across the band.

Clifford Heath.

2188. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 14:35:37 UTC
From: amdx <amdx@knology.net>
Message-ID: <36b89$4e5f97f3$18ec6dd7$18838@KNOLOGY.NET>
Source record: 3889

On 8/31/2011 10:55 PM, Jeff Liebermann wrote:
> On Wed, 31 Aug 2011 13:57:31 -0500, amdx<amdx@knology.net> wrote:
>
>> Hi Jeff,
>
> Likewise. alt.internet.wireless appears to be dead. Oh well.
> Thanks for posting the info on the coax cable in the MFJ-1800. I
> couldn't find the applicable message with Google Groups.
>
>> I see MFJ now has a Bi-Quad 12dbi antenna.
>> http://www.mfjenterprises.com/Product.php?productid=MFJ-1804
>> If I send the the dimensions....
>
> Ummm.... please don't do that.
>
>> Just kidding!
>
> Whew!
>
> Interesting MFJ-1804 biquad antenna. In order to get 12dBi gain out
> of something like that, it would either need to be 2 biquads and some
> kind of power splitter, or one of those extended biquads as in:
> <http://www.larsen-b.com/Article/201.html>

Ya, I have my doubts about the 12 dbi gain figure. I have built a few
biquads, (with your feed point correction), it has amazed me how easy
it is to make them work (at 2.4 Ghz), I always thought the short
wavelength would cause many dimensional errors. Yes, they work, what
does "work" mean :-)
I've settled on a flat panel antenna for my boat antenna
(15dbi manu. spec.) At one time I had a dish with biquad feed, but it
was to tight, when the wind blew or tide changed it would miss the target.
Do you believe the 20 dbi figure?
http://www.ebay.com/itm/20-DBi-2-4GHz-Wifi-Yagi-Antenna-RP-SMA-Router-Wifi-/110730734175?_
trksid=p4340.m1374&_trkparms=algo%3DPI.WATCH%26its%3DC%252BS%26itu%3DUCC%26otn%3D15%26ps%3
D63%26clkid%3D2473925749399603295

Mikek

2189. Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 17:01:54 UTC
From: Sniff ma Diff! <banjobusters@grand.old.opry.com>
Message-ID: <ipdv575oft70bb4lfh66i9hbemnfhdg10n@4ax.com>
Source record: 3890

Just discovered a dinky 20m yagi. made from wooden dowel with an 8ft square section to connect the two ends, the electrical parts are simply wire where required.

Being 8ft across the ends and slightly more lengthwise to allow for a turning radius, it looks like it could fit in my loft. I already have a lightweight rotator that could handle that. I think it was supposed to be a caravan tv aerial originally.

To make things even lighter I wondered if I could use pvc conduit with alloy tape as the elements? Either way I think ist worth a go.

My problem is my rotator, it has twin core cable from its little remote, so theres no way to determine where Im pointing.
So thats my query, anyone any ideas how I can show something downstairs, while this is turning in the loft?

Best I could come up with is to use some sort of lighweight motor/gears arrangement to work a pointer, by splitting the feed cable in two and using one as a feed for that,perhaps that would work?

1) It stops at one point and must be reversed.
2) It cant turn continuously.
3 Dont know how real ones work at all.
4) No idea if a proper one can be jury rigged ro work here.

2190. Test - osc.jpg (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 17:11:08 UTC
From: MM6AHJ <banjobusters@grand.old.opry.com>
Message-ID: <k3fv57lqjtf7gooo0r9qukjc3opfph68gc@4ax.com>
Source record: 3891

Test

2191. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 17:11:52 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <47dv575f8hhtjbnpqkrs4ddbjglo37921h@4ax.com>
Source record: 3892

On Thu, 01 Sep 2011 09:35:37 -0500, amdx <amdx@knology.net> wrote:

> Ya, I have my doubts about the 12 dbi gain figure.

Everyone lies about gain, but that's ok because few people can measure
the gain (and get reproducible results).

>I have built a few
>biquads, (with your feed point correction), it has amazed me how easy
>it is to make them work (at 2.4 Ghz), I always thought the short
>wavelength would cause many dimensional errors. Yes, they work, what
>does "work" mean :-)

For a given physical size antenna, high gain antennas imply narrow
bandwidth and critical construction. On the other foot, low gain
antennas, such as the biquad, is fairly broadband, and therefore not
particularly critical to construct. What's fun is to attach the
antenna to a reflection coefficient bridge or directional coupler,
<http://pe2er.nl/wifiswr/>
<http://www.qsl.net/n9zia/rlb/texscan.png>
<http://www.qsl.net/n9zia/rlb/>
sweep generator, and oscilloscope to look at the VSWR curve. Then try
moving things around. On my crowded workbench, location of the
antenna relative to the highly reflective test equipment make a huge
difference. The changes do not really have a big effect on antenna
operation, but they certainly present a different picture as compared
to the nice clean curves on the data sheets.

> Do you believe the 20 dbi figure?
>http://www.ebay.com/itm/20-DBi-2-4GHz-Wifi-Yagi-Antenna-RP-SMA-Router-Wifi-/110730734175?
_trksid=p4340.m1374&_trkparms=algo%3DPI.WATCH%26its%3DC%252BS%26itu%3DUCC%26otn%3D15%26ps%
3D63%26clkid%3D24739257493996032 95

I guess you missed my previous rant on the subject. I bought two of
those yagi antennas (for $6/ea incidentally) just to see what was
wrong with them.
<http://802.11junk.com/jeffl/crud/wi-fi-yagi-that-sucks.jpg>
Notice the really crude dipole driven element hiding under the
plastic. That isn't going to work. No balun, no matching, exposed
coax wires, and offset from the center line too much. Some tests
showed that it has more gain to the side than towards the front. I
also suspect that the rather large size boom diameter was not
considered in calculating the element lengths. A piece of total junk,
but at the price, probably sells well (which is why I like the antenna
biz).

The above yagi is apparently a cost reduced clone of a similar yagi
that does have a proper feed and a more realistic gain claim. I think
(not sure) that this is the one:
<http://www.ebay.com/itm/250847584296>
I have no idea if this one works any better.

This is a more reputable source:
<http://www.comtelcoantennas.com/yagi_1_8_2_4_ghz.htm>
Note the radically higher prices and the 14dBi gain for a 16 element
yagi:
<http://www.comtelcoantennas.com/PDF%20Datasheets/Y422416.pdf>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2192. Test - pixie2transceiver.gif (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 17:13:30 UTC
From: MM6AHJ <banjobusters@grand.old.opry.com>
Message-ID: <b8fv57hf3pj42g0to8p9npk0d584hakka1@4ax.com>
Source record: 3893

Test

2193. Test - osc.jpg (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 17:14:20 UTC
From: MM6AHJ <banjobusters@grand.old.opry.com>
Message-ID: <9afv575lfodjagqfeq00nkoebh9e41nnb8@4ax.com>
Source record: 3894

Test

2194. Re: Test - osc.jpg (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 18:04:24 UTC
From: Bert <bert@iphouse.com>
Message-ID: <Xns9F5384FD37090VeebleFetzer@216.250.188.140>
Source record: 3895

In news:k3fv57lqjtf7gooo0r9qukjc3opfph68gc@4ax.com MM6AHJ
<banjobusters@grand.old.opry.com> wrote:

> Test

Many news providers, including mine, filter out all binary posts to
non-binary groups like this one, so your images won't be seen by most
readers.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

2195. Re: Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 18:33:46 UTC
From: dplatt@radagast.org
Message-ID: <apv4j8-86q.ln1@radagast.org>
Source record: 3896

In article <ipdv575oft70bb4lfh66i9hbemnfhdg10n@4ax.com>,
Sniff ma Diff! <banjobusters@grand.old.opry.com> wrote:

>To make things even lighter I wondered if I could use pvc conduit with
>alloy tape as the elements? Either way I think ist worth a go.

In my experience, PVC conduit tends to sag if used for horizontal
elements... it needs to be supported every few feet or it will
"droop".

>My problem is my rotator, it has twin core cable from its little
>remote, so theres no way to determine where Im pointing.
>So thats my query, anyone any ideas how I can show something
>downstairs, while this is turning in the loft?

That depends a lot on just what sort of rotator it is, whether the
remote is intended to have any sort of display, etc.

Some old-style TV rotators were intended to be "self-aligning" by
means of a clutch... turn the knob all the way clockwise, wait until
the antenna stops rotating, turn the knob all the way
counter-clockwise, wait until it stops, and you now know that the
antenna is certain to be all the way at one end of its travel (e.g.
due northwards, if that's the way you originally mounted it) and you
can rotate it back to any desired direction.

If worse comes to worst you may need to add some sort of extra readout
sensors - e.g. a multi-turn potentiometer, linked to the rotating part
of the mast through a belt or idler-pulley arrangement - and run an
extra set of sensing wires down to your shack.

>Best I could come up with is to use some sort of lighweight
>motor/gears arrangement to work a pointer, by splitting the feed cable
>in two and using one as a feed for that,perhaps that would work?

Depends if the feed cable has a separate ground (braid) or is just the
two leads.

I think we need more details on just how your rotator works (and is
wired) and how the antenna is wired up, to offer good advice.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2196. Re: Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 20:56:28 UTC
From: MM6AHJ <banjobusters@grand.old.opry.com>
Message-ID: <2bsv57ph2anqbdo256596ve8bqkog40kjb@4ax.com>
Source record: 3897

The rotator is a pretty simple affair, the lead is bellwire, straight two two core bellwire. It stops same place every time either way so the internal gears ,must be doing something right.

My apologies though....I think Im in the wrong NG? I reinstalled my reader and may have screwed that up a little, I noticed I could upload pics so I tried that with a simple osc diagram, which refused to go. I dont want the Mod thinking he had some incoming pornfest on the way, my call is indeed my own verifiable callsign here in Scotland if you need to verify.

Thanks
BN

2197. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 21:28:54 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3otdo$ko5$1@dont-email.me>
Source record: 3898

"Owen Duffy" <none@no.where> wrote in message
news:Xns9F5354A53D8B7nonenowhere@88.198.244.100...

>
> Would you like the PEP meter function to work properly (instead of
> 'truly'). There is provision for a transistor and couple of related
> parts, <50c worth in all, that are not fitted to the board, presumably
> as a cost saving measure. If you populate those parts, the think WILL
> require 12V for the PEP function, but it will work properly, well pretty
> well.
>
> Unfortunately, it is a half hour job to fit the parts post production.

Thanks, Owen, but the measurement function is no big deal to me.

I already have several powered in-line meters that I'm _not_ using.

"Sal"
(KD6VKW)

2198. Re: Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 21:41:31 UTC
From: dplatt@radagast.org
Message-ID: <bpa5j8-c4a.ln1@radagast.org>
Source record: 3900

In article <2bsv57ph2anqbdo256596ve8bqkog40kjb@4ax.com>,
MM6AHJ <banjobusters@grand.old.opry.com> wrote:

>The rotator is a pretty simple affair, the lead is bellwire, straight
>two two core bellwire. It stops same place every time either way so
>the internal gears ,must be doing something right.

>My apologies though....I think Im in the wrong NG? I reinstalled my
>reader and may have screwed that up a little, I noticed I could upload
>pics so I tried that with a simple osc diagram, which refused to go.
>I dont want the Mod thinking he had some incoming pornfest on the way,
>my call is indeed my own verifiable callsign here in Scotland if you
>need to verify.

There isn't a USENET moderator, per se, in this newsgroup.

However, many USENET providers do honor the "No binaries here!"
charter for this group, and won't pass along articles that contain them.

Now... as to a solution to your problem. One might be the approach I
think you were thinking of - use one lead in the bellwire for power,
the other for a readout signal, and use your building's grounding
system as the return for both. This would probably work, but I don't
recommend it... mains-wiring earthing should really be used only for
safety purposes and should never carry currents. In the event of a
wiring fault, you might find your antenna-rotor system carrying some
very high fault currents (many amperes) and could expose yourself to
shock and equipment damage.

One simple approach would require no new equipment or wiring at all,
except a wristwatch. Simply figure out how long it takes your rotator
to go all the way from one end of its travel to the other. In order
to aim the antenna to a specific direction, rotate it all the way one
way (maximum turn time) and then rotate it back for a variable amount
of time based on the direction you want it to point. As long as the
rotator "clutch" can stand to spin against the stop for a full
rotation-time, this should be safe enough. If the rotator doesn't
have a clutch - if you're actually "stalling" the motor when it hits
the end-stop - then you shouldn't keep running it past this point
(might overheat the motor) and should stop rotating when the motor
stalls and the current jumps upwards.

There are plenty of fancier approach which could be tried, which would
carry both DC power to the rotator, and some sort of measurement
and/or control signal, over the same cable. The latter might be
carried as an audio tone, for instance.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2199. Re: Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 22:07:06 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3ovl2$3rd$1@dont-email.me>
Source record: 3899

"MM6AHJ" <banjobusters@grand.old.opry.com> wrote in message
news:2bsv57ph2anqbdo256596ve8bqkog40kjb@4ax.com...
> The rotator is a pretty simple affair, the lead is bellwire, straight
> two two core bellwire. It stops same place every time either way so
> the internal gears ,must be doing something right.
>
> My apologies though....I think Im in the wrong NG? I reinstalled my
> reader and may have screwed that up a little, I noticed I could upload
> pics so I tried that with a simple osc diagram, which refused to go.
> I dont want the Mod thinking he had some incoming pornfest on the way,
> my call is indeed my own verifiable callsign here in Scotland if you
> need to verify.
>
> Thanks
> BN

For pics, put them on a website and post the link here. Many do that. Easy to use is Picasa; others may be easier.

Powering the rotator usually involves applying 28 - 36 VAC. One side of the AC is tied directly to two coils in the motor; the other end of those coils is tied to the other side of the AC, one directly and the other through a capacitor. Direction of rotation is established by which coil is fed directly.

I know of three ways to indicate the rotator's position. One uses a tapped resistor to send a portion of the applied voltage to the controller, which has a meter in it. It only indicates when power is applied (during actual rotation).

The second uses a make-break contact in the rotator to send a sequence of pulses to a spring-loaded stepper during rotation. It indicates the position with a mechnical pointer on the controller. Indicates always.

The third has a small motor in the controller, turning an indicator at (we hope) the same speed as the rotator. Indicates always.

If you can determine that your rotator uses one of these, maybe we can take you and your rotor to the next level.

"Sal"

2200. Re: Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 22:26:42 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j3p0r5aqn1@dont-email.me>
Source record: 3801

On 9/1/2011 12:01 PM, Sniff ma Diff! wrote:
> My problem is my rotator, it has twin core cable from its little
> remote, so theres no way to determine where Im pointing.
> So thats my query, anyone any ideas how I can show something
> downstairs, while this is turning in the loft?

The beauty of usenet is it allows all sorts of characters to post. Typically, in response a simple question it turns into some insane "How esoteric and complicated can I make this?" contest.

So, with that thought in mind....

You have a rotor, you have two wires between your radio shack and the rotor.

Since everyone seems to think that broadband over power lines is such a "Good thing(tm)" here's a solution to your problem.

Use your two wire feeder to supply a fixed AC voltage to run the controllers and the rotator.

Feed a digital control signal up the power line to tell the rotor which way to turn.

Feed a digital signal back down the power line with the telemetry to feed a display of which way the rotor is pointing.

Obviously since you have a bi-direction data stream on the power line to the rotor, you can get as complicated as you want with the amount of extraneous details. Such as slow start, brake clutch on and off.

In fact, since you're already in the roof, add a weather station outside and feed that data back down too. ;-)

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2201. Re: Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-01 22:48:44 UTC
From: Sal <sobars@aol.com>
Message-ID: <j3p22qhuc1@dont-email.me>
Source record: 3802

"Dave Platt" <dplatt@radagast.org> wrote in message
news:bpa5j8-c4a.ln1@radagast.org...

< snip >

> If the rotator doesn't
> have a clutch - if you're actually "stalling" the motor when it hits
> the end-stop - then you shouldn't keep running it past this point
> (might overheat the motor) and should stop rotating when the motor
> stalls and the current jumps upwards.

I like that wristwatch concept. But the quoted passage gave me another idea. If the stalled rotor current is appreciably higher than the operating current, then that's his end-of-travel indicator, right there. I can check it myself and the OP will also need to.

Sal

2202. Economy antenna rotator

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-02 00:32:56 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <s09067d0qa4b25q70qled2kmkvav2au33k@4ax.com>
Source record: 3803

<http://thereifixedit.failblog.org/2011/09/01/white-trash-repairs-hurricane-coming-just-move-it-inside/>
Now, why didn't I think of that?

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2203. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-02 01:38:58 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j3pc3j$5s32$1@tr22n12.aset.psu.edu>
Source record: 3804

On 8/31/2011 6:19 PM, Owen Duffy wrote:

> Is it unfair to say that buying some MFJ products is a bit like buying
> an unfinished kit?

That's a pretty good assessment. I'm even willing to put up with it for the price.

The way I figure, if I have a professional business that I need to buy equipment, I'm going to buy top notch equipment that I can depreciate as part of the business.

In my personal life, I have a bit tighter of a budget. So I'm willing to tighten screws and do the final QC on the stuff. I'm going to open the case and have a look around anyhow.

- 73 de Mike N3LI -

2204. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-02 06:04:37 UTC
From: Renee
Message-ID: <jvr067pnph76mk9pvotarpf9gpng7nhb2r@4ax.com>
Source record: 3805

Guys, guys, when I wrote asking what I thought were a couple of simple questions just to clarify some points, I never thought it would end up creating such a stir. Don't get me wrong, I am enjoying all the technical back and forth communication, it's a whole lot more than I could have imagined.

I just wanted to pop in to say thanks to everyone while the thread is still active. It's turning out to be quite educational, I really appreciate it. Now, I am off to try to catch up with the latest replies.

73, Renee

2205. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-02 16:38:05 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j3r0pd$g09$2@news.jpl.nasa.gov>
Source record: 3806

On 9/1/2011 10:11 AM, Jeff Liebermann wrote:
>
> For a given physical size antenna, high gain antennas imply narrow
> bandwidth and critical construction. On the other foot, low gain
> antennas, such as the biquad, is fairly broadband, and therefore not
> particularly critical to construct. What's fun is to attach the
> antenna to a reflection coefficient bridge or directional coupler,
> <http://pe2er.nl/wifiswr/>
> <http://www.qsl.net/n9zia/rlb/texscan.png>
> <http://www.qsl.net/n9zia/rlb/>
> sweep generator, and oscilloscope to look at the VSWR curve. Then try
> moving things around. On my crowded workbench, location of the
> antenna relative to the highly reflective test equipment make a huge
> difference. The changes do not really have a big effect on antenna
> operation, but they certainly present a different picture as compared
> to the nice clean curves on the data sheets.

You're building a CW radar, basically.

That's how near field ranges work, too.

2206. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-02 22:10:30 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <vmj267h1m5334g349irgp9jihscu48ivu0@4ax.com>
Source record: 3807

On Fri, 02 Sep 2011 09:38:05 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>On 9/1/2011 10:11 AM, Jeff Liebermann wrote:
>>
>> For a given physical size antenna, high gain antennas imply narrow
>> bandwidth and critical construction. On the other foot, low gain
>> antennas, such as the biquad, is fairly broadband, and therefore not
>> particularly critical to construct. What's fun is to attach the
>> antenna to a reflection coefficient bridge or directional coupler,
>> <http://pe2er.nl/wifiswr/>
>> <http://www.qsl.net/n9zia/rlb/texscan.png>
>> <http://www.qsl.net/n9zia/rlb/>
>> sweep generator, and oscilloscope to look at the VSWR curve. Then try
>> moving things around. On my crowded workbench, location of the
>> antenna relative to the highly reflective test equipment make a huge
>> difference. The changes do not really have a big effect on antenna
>> operation, but they certainly present a different picture as compared
>> to the nice clean curves on the data sheets.

>You're building a CW radar, basically.
>That's how near field ranges work, too.

Yep. Also known as a proximity detector and possibly a really bad
interferometer. I can see cars driving by, people moving around in
the house, trees swaying in the wind, and the opening and closing of
doors and windows. These are all easy to identify on the sweep
because they all move around. Only the major dip in the VSWR curve,
near resonance, remains fairly stable.

Back to MFJ bashing... On my desk is yet another MFJ-259B for
repair, probably with the two blown shottky diodes that I previously
mentioned. One of the local hams heard me talking about the problem
over the local repeater, and decided that maybe I could fix it for
him. Usually, they wait until the week before Field Day for such
repairs but he's installing a tower next week and wants it fixed
yesterday. Sigh.

--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2207. Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 10:26:59 UTC
From: Scott Smith <scott93727@gmail.com>
Message-ID: <0da37ef4-b157-4e42-b4b7-bdda57c16051@x21g2000prd.googlegroups.com>
Source record: 3808

Internet Shortwave Reciever Professional Software Ver. 1.5
High Performace Internet Shortwave Monitor
AM FM LW MW SW Bands
LSB USB AM CW Modulation
Programmable Band Options
Unlimited Internet Shortwave Stations
Fully Programmable Station URLS
Low Paypal Price, Special $40 Offer
http://www.binaural.info/shortwavepro/shortwave.htm

2208. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 13:56:30 UTC
From: dave <dave@dave.dave>
Message-ID: <4e62320d$0$5551$bd467cd0@news.dslextreme.com>
Source record: 3809

Jeff Liebermann wrote:

> Back to MFJ bashing... On my desk is yet another MFJ-259B for
> repair, probably with the two blown shottky diodes that I previously
> mentioned. One of the local hams heard me talking about the problem
> over the local repeater, and decided that maybe I could fix it for
> him. Usually, they wait until the week before Field Day for such
> repairs but he's installing a tower next week and wants it fixed
> yesterday. Sigh.
>

Have you discussed this with Martin Jue? I think it's rude to bad-mouth a fellow ham behind his back. I don't see how the diodes are a problem, if you follow directions. If you live somewhere dusty or snowy and dry enough to make static, use a gamma match or an UnUn or some other means to keep your antenna at DC ground. I have been using germanium diodes for 50 years and can't remember frying one in a small signal RF application. What does Martin say about bleeder resistors?

I have a 4" pigtail around the ground lug and a male banana plug on the end that lives in the middle of the SO-239, unless I am making measurements. I use the banana plug as a shorting stick to neutralize any residual capacitive charge in the device/coaxial cable under test. Center conductor to cable ground. If I am especially concerned I'll groung the 259B to my extensive safety ground system. When dealing with little diodes you always want to make sure none of the sparks go through them. Ground, ground and ground.

2209. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 13:59:53 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6232d9$0$5545$bd467cd0@news.dslextreme.com>
Source record: 3810

Scott Smith wrote:

> Internet Shortwave Reciever Professional Software Ver. 1.5
> High Performace Internet Shortwave Monitor
> AMï¿½FMï¿½LWï¿½MWï¿½SWï¿½Bands
> LSBï¿½USB AM CW Modulation
> Programmable Band Options
> Unlimited Internet Shortwave Stations
> Fully Programmable Station URLS
> Low Paypal Price, Special $40 Offer
> http://www.binaural.info/shortwavepro/shortwave.htm

Can't my computer already receive these stations?

2210. FIRST NIGHT HOT VIDEOS AND KISS PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 15:33:34 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <c8704a79-8d03-4e14-acd9-2439dbc39c9a@b34g2000prf.googlegroups.com>
Source record: 3811

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SEXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

2211. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 16:25:31 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <s6i46715flanfffcm5frbqherc60gq2orf@4ax.com>
Source record: 3812

On 03 Sep 2011 13:56:30 GMT, dave <dave@dave.dave> wrote:

>Jeff Liebermann wrote:
>
>
>> Back to MFJ bashing... On my desk is yet another MFJ-259B for
>> repair, probably with the two blown shottky diodes that I previously
>> mentioned. One of the local hams heard me talking about the problem
>> over the local repeater, and decided that maybe I could fix it for
>> him. Usually, they wait until the week before Field Day for such
>> repairs but he's installing a tower next week and wants it fixed
>> yesterday. Sigh.

>Have you discussed this with Martin Jue?

No. I don't own an MFJ-259B. This is my 3rd(?) repair for what
appears to be exactly the same problem. I don't see how calling MFJ
will prove anything as they are apparently aware of the ESD problem.
See quotes from manual below.

I also reverse engineered the MFJ-1800 antenna, and also decided that
it has a problem. I have not called MFJ on these issues. Too busy
and too lazy.

>I think it's rude to bad-mouth
>a fellow ham behind his back.

Would you prefer I keep it secret and not tell fellow hams how to fix
it and why I think they blow up? I believe that I clearly labelled my
guesswork as conjecture and not fact. If hams were only allowed to
discuss things that are absolutely certain, the airwaves would be
silent.

>I don't see how the diodes are a problem,
>if you follow directions.

The units that are failing are not mine. I have no control over how
they are used.

As I vaguely recall, one failed while connected to some HF wire
antenna, the 2nd failed while plugging in a variety of calibrated
loads on the bench, and the most recent failed while attached to a
mobile HF antenna. It was difficult to determine the exact cause of
each failure because the unit did not just die, but instead started
producing insane readings. In all cases, the user thought something
was wrong with the antenna or loads, not the MJF-259B.

>If you live somewhere dusty or snowy and dry
>enough to make static, use a gamma match or an UnUn or some other means
>to keep your antenna at DC ground.

Attach a high impedance voltmeter to a wire antenna blowing in the
wind and note the DC voltage produced. In my area, the humidity
rarely goes below about 30%, so static build up should not be a
problem when attached to an antenna. Currently, the humidity is
80-90% (morning fog), but when we get the hot dry winds from the
desert, the humidity will drop sufficiently low to cause problems for
a few daze.

What I believe is killing the diodes is not RF. It's the user
building up a static charge on plastic seat covers, synthetic clothes,
plastic carpet, etc, and discharging it into the antenna connector
when plugging in the antenna connector. Incidentally, one of my
customers with chronic equipment failures was traced to a negative ion
generator, which produced impressive high voltages on nearby object.

>I have been using germanium diodes
>for 50 years and can't remember frying one in a small signal RF
>application.

How many of these germanium diodes were directly connected to the
antenna connector?

Apparently you missed my previous rant on the topic. See the
schematic extract of the RF section at:
<http://802.11junk.com/jeffl/crud/MFJ-259B-RF-section.jpg>
Notice the directly connected diodes. The diodes in question are
Avago HSMS-2820 zero bias shottky diodes.
<http://www.avagotech.com/docs/AV02-1320EN>
15V Max PIV is rather low. It won't take much voltage at the antenna
go exceed 15V. The two 47K resitors going to 0.01uf bypass caps make
an effective ground to any fast risetime voltage spike at the antenna.
An important clue is that BOTH D3 and D4 appear to be blown each time,
which implies an external failure, not a component failure.

>What does Martin say about bleeder resistors?

I don't know. I haven't discussed this or any of my allegations with
him or MFJ support.

>I have a 4" pigtail around the ground lug and a male banana plug on the
>end that lives in the middle of the SO-239, unless I am making
>measurements. I use the banana plug as a shorting stick to neutralize
>any residual capacitive charge in the device/coaxial cable under test.
>Center conductor to cable ground. If I am especially concerned I'll
>groung the 259B to my extensive safety ground system. When dealing with
>little diodes you always want to make sure none of the sparks go through
>them. Ground, ground and ground.

Yep. That's a good way to provide some protection. However, there's
no protection while you're juggling connectors when you run the risk

of a static discharge to the center of the coax connector.

I don't recall reading such a procedure in the user manual. However,
there are plenty of warning:
<http://www.mfjenterprises.com/pdffiles/MFJ-259B.pdf>
In section 4.1:
WARNING: NEVER APPLY EXTERNAL VOLTAGES OR RF SIGNALS TO THE
ANTENNA CONNECTOR.
and in 5.1:
WARNING: NEVER APPLY RF OR ANY OTHER EXTERNAL VOLTAGES TO THE
ANTENNA PORT OF THIS UNIT. THIS UNIT USES ZERO BIAS DETECTOR
DIODES THAT ARE EASILY DAMAGED BY EXTERNAL VOLTAGES OVER A
FEW VOLTS.
and in 5.2:
WARNING: NEVER APPLY EXTERNAL VOLTAGES OR RF SIGNALS TO THE
ANTENNA CONNECTOR. PROTECT THIS PORT FROM ESD.

Clear enough. It would appear that MFJ is fully away of the fragile
nature of the input circuitry.

--
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Skype: JeffLiebermann AE6KS 831-336-2558

2212. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 16:51:00 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <m0m467ter0gik8vtf08fkhpcmls5p7fba1@4ax.com>
Source record: 3813

On Sat, 03 Sep 2011 09:25:31 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>>I have a 4" pigtail around the ground lug and a male banana plug on the
>>end that lives in the middle of the SO-239, unless I am making
>>measurements. I use the banana plug as a shorting stick to neutralize
>>any residual capacitive charge in the device/coaxial cable under test.
>>Center conductor to cable ground. If I am especially concerned I'll
>>groung the 259B to my extensive safety ground system. When dealing with
>>little diodes you always want to make sure none of the sparks go through
>>them. Ground, ground and ground.

Hmmm.... The problem might be the SO-239 connector. When you plug
something into that connector, it connects the center pin first, and
then the ground. If it were replaced by an N connector, the ground
would make contact before the center pink, thus offering some added
protection. I'll see if the connector can be replaced.

<http://www.w8ji.com/mfj-259b_calibration.htm>
Most Likely Failures

Other than manufacturing errors, the detector diodes clearly
stand out as the most common problem. They are the most easily
damaged devices in the analyzer. If you have a sudden problem,
it is most likely a defective detector diode. Diode damage almost
always comes from accidentally applying voltage on the antenna
port.

Why are the diodes so sensitive? In order for the detectors to be
accurate within a fraction of a percent (one bit), detector diodes
must have very low capacitance and a very low threshold voltage.
This means the diodes, through necessity, must be low-power
zero-bias Schottky microwave detector diodes. The same
characteristics that make them accurate and linear cause the diodes
to be especially sensitive to damage from small voltage spikes.
ALWAYS discharge large antennas before connecting them to the
analyzer! Never apply external voltages greater than 3 volts to the
antenna port!

and

Because the detector is broadband and because it is dc coupled
to the antenna, any external voltage across the input port
causes measurement errors. It is the accumulated voltage of
multiple sources that is most important, not the strength of
any individual signal. Because of that, large antennas should

be tested at times when propagated signals in the range of the
antenna's response are at minimum strength.

W8JI designed the MFJ-259b.

--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2213. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 18:31:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <63s4675mvdfm6b4m9n2ik96jvj8si2o177@4ax.com>
Source record: 3815

On Sat, 03 Sep 2011 09:25:31 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

> The two 47K resitors going to 0.01uf bypass caps make
>an effective ground to any fast risetime voltage spike at the antenna.

Hi Jeff,

I'm sure you are perfectly aware of the single point of failure in
that generality.

Few Caps exhibit 0.01uF (when so marked) to transients (where it is
presumed they will exhibit 1/2*pi*f*c reactance to the risetime).

When we (silverbacks) got into this game, (the preferable) mica caps
were available, snipped out of the nearest sacrificial TV or radio.
Trying to read those several styles of color coding was the biggest
hurdle, but I had plenty in my junk-box.

Ceramic is ubiquitous, now, and far from choice in these matters,
unless you do deep research (maybe).

You got any favorites that respond to this?

73's
Richard Clark, KB7QHC

2214. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 18:32:08 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <pas467h811lv2t2vom7cbf8oosqavl1fjt@4ax.com>
Source record: 3814

On Sat, 03 Sep 2011 09:51:00 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

(...)

K0TO is collecting voltage measurement of the MFJ-259b for the purpose
of identifying blown diodes:
<http://www.k0to.us/HAM/MFJ%20Diode%20measurements/Gather_MFJ_Data.htm>
Estimates of the correct values:
<http://www.k0to.us/HAM/MFJ%20Diode%20measurements/MFJ-259B%20Test%20Point%20Voltages.htm>

Incidentally, his schematic at:
<http://www.k0to.us/HAM/MFJ%20Diode%20measurements/11-17-sch_mfj259b-BW.pdf>
looks better than most of the scans I've seen.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2215. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 18:47:56 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j3tsq3$5da$1@dont-email.me>
Source record: 3816

On 9/3/2011 1:32 PM, Jeff Liebermann wrote:
> On Sat, 03 Sep 2011 09:51:00 -0700, Jeff Liebermann<jeffl@cruzio.com>
> wrote:
>
> (...)
>
> K0TO is collecting voltage measurement of the MFJ-259b for the purpose
> of identifying blown diodes:
> <http://www.k0to.us/HAM/MFJ%20Diode%20measurements/Gather_MFJ_Data.htm>
> Estimates of the correct values:
>
<http://www.k0to.us/HAM/MFJ%20Diode%20measurements/MFJ-259B%20Test%20Point%20Voltages.htm>
>
> Incidentally, his schematic at:
> <http://www.k0to.us/HAM/MFJ%20Diode%20measurements/11-17-sch_mfj259b-BW.pdf>
> looks better than most of the scans I've seen.
>

Good resources. Thanks, Jeff.

John - KD5YI

2216. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-03 22:51:10 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <37b567lb6lk262qcd6jkvh3lnjdb4fc7c8@4ax.com>
Source record: 3817

On Sat, 03 Sep 2011 11:31:51 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Sat, 03 Sep 2011 09:25:31 -0700, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>
>> The two 47K resitors going to 0.01uf bypass caps make
>>an effective ground to any fast risetime voltage spike at the antenna.

>I'm sure you are perfectly aware of the single point of failure in
>that generality.

I am? Ummm... well, I guess so.

>Few Caps exhibit 0.01uF (when so marked) to transients (where it is
>presumed they will exhibit 1/2*pi*f*c reactance to the risetime).

True. They all have some internal resistance to overcome. However,
that's negligible resistance when compared to that of a static blast.
Static electricity has lots of potential (volts), but is only able to
deliver small amounts of current. That's why we don't get
electrocutes by the potential (voltage) difference between our head
and our feet. Dividing the large voltage, by the tiny current,
results in a fairly substantial source resistance. I'm too lazy to
look it some real numbers, but I'm sure it's in mega ohms. The 47K
resistance, and whatever ESR the 0.01uF contributes, has little effect
on the energy delivered to the shottky diode.

Incidentally, if the source resistance of the static blast was much
less, then the diode would not simply be fried. It would probably
explode.

>When we (silverbacks) got into this game, (the preferable) mica caps
>were available, snipped out of the nearest sacrificial TV or radio.
>Trying to read those several styles of color coding was the biggest
>hurdle, but I had plenty in my junk-box.

Dumpster diving in Henry Radio's trash can in West Smog Angeles was
one of my favorite after skool exercises. Salvaging old TV chassis
and dead tubes were the grand prizes. Silver mica caps came a close
second.

>Ceramic is ubiquitous, now, and far from choice in these matters,
>unless you do deep research (maybe).

Ceramic is cheap. I was a big fan of porcelain caps from AVX in big
power amps. If you wanna handle current, there's nothing better.

Silver mica would get hot, ceramic would explode, and everything else
was either too big or too expensive.

Incidentally, I don't think they make 0.01uF silver mica caps. The
biggest I played with were in antenna tuners at 4700pF (or should I
say uuF for nostalgia purposes).

>You got any favorites that respond to this?

I don't understand the question. Favorite what?

--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2217. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-04 05:29:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7f1667p53kjc321bkee8kbcg01gumlt5np@4ax.com>
Source record: 3818

On Sat, 03 Sep 2011 15:51:10 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>>Few Caps exhibit 0.01uF (when so marked) to transients (where it is
>>presumed they will exhibit 1/2*pi*f*c reactance to the risetime).
>
>True. They all have some internal resistance to overcome.

It goes beyond that. Extrapolating from power applications hides the
defects of ceramic.

At HF/VHF and above, successful applications comes from throwing uF
solutions at pF problems. Ceramic's performance reveals inductive
reactance above 1-10 MHz. ESR also exhibits the same turn-around in
the same frequency range. Ceramic temperature coefficient is (Y5V)
goes into the toilet in weather that most of the south and eastern
seaboard has seen this summer. XR7 voltage coefficient causes
capacity to plummet at the voltages you offer for static. Over time,
ceramics lose capacity for simply having been in service for a while.

Aside from that, they work fine.

> I was a big fan of porcelain caps from AVX in big
>power amps. If you wanna handle current, there's nothing better.

However, those ceramics are 1,000 times (min.) larger than what you
have recommended. They serve an entirely different agenda.

AVX discusses these issues in much the same terms (for those larger
caps too) at:
http://www.avx.com/docs/techinfo/mlc-tant.pdf

>Incidentally, I don't think they make 0.01uF silver mica caps. The
>biggest I played with were in antenna tuners at 4700pF

Where there is every chance that one silver mica head-to-head with the
ceramic actually exhibit better performance (protecting the diodes).
Perhaps with the scarcity of silver mica, however, 10uF ceramics would
make do (it is not like any precision is demanded to force a selection
of 0.01uF which is boilerplate recommendation from the 50s).

73's
Richard Clark, KB7QHC

2218. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-04 14:05:13 UTC
From: dave <dave@dave.dave>
Message-ID: <4e638599$0$5503$bd467cd0@news.dslextreme.com>
Source record: 3819

Jeff Liebermann wrote:

>
> Yep. That's a good way to provide some protection. However, there's
> no protection while you're juggling connectors when you run the risk
> of a static discharge to the center of the coax connector.
>
> I don't recall reading such a procedure in the user manual. However,
> there are plenty of warning:
> <http://www.mfjenterprises.com/pdffiles/MFJ-259B.pdf>
> In section 4.1:
> WARNING: NEVER APPLY EXTERNAL VOLTAGES OR RF SIGNALS TO THE
> ANTENNA CONNECTOR.
> and in 5.1:
> WARNING: NEVER APPLY RF OR ANY OTHER EXTERNAL VOLTAGES TO THE
> ANTENNA PORT OF THIS UNIT. THIS UNIT USES ZERO BIAS DETECTOR
> DIODES THAT ARE EASILY DAMAGED BY EXTERNAL VOLTAGES OVER A
> FEW VOLTS.
> and in 5.2:
> WARNING: NEVER APPLY EXTERNAL VOLTAGES OR RF SIGNALS TO THE
> ANTENNA CONNECTOR. PROTECT THIS PORT FROM ESD.
>
> Clear enough. It would appear that MFJ is fully away of the fragile
> nature of the input circuitry.
>
I learned to ground everything working on transmitters the size of
houses. The B+ is bled and grounded when you open the door, but you
still ground anything metal before you touch it. It translated nicely to
CMOS procedures on the bench. I am a grounding fool because I know any
conductor can store a charge lethal to solid state and that any friction
produces a charge. (I humidify, too!)

2219. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-04 14:28:19 UTC
From: Robby
Message-ID: <ul2767hsrd7oh995cegfsvfea9s635puhi@4ax.com>
Source record: 3820

On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:

>Scott Smith wrote:
>
>> Internet Shortwave Reciever Professional Software Ver. 1.5
>> High Performace Internet Shortwave Monitor
>> AMï¿½FMï¿½LWï¿½MWï¿½SWï¿½Bands
>> LSBï¿½USB AM CW Modulation
>> Programmable Band Options
>> Unlimited Internet Shortwave Stations
>> Fully Programmable Station URLS
>> Low Paypal Price, Special $40 Offer
>> http://www.binaural.info/shortwavepro/shortwave.htm
>
>Can't my computer already receive these stations?

Shhh! Don't tell anyone for God's sake!

2220. KATRINA KAIF RARE PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-04 16:00:06 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <adc1e84e-d72b-4c47-84ee-33a293442a16@t20g2000prf.googlegroups.com>
Source record: 3821

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

FOR HOT PHOTO&VIDEOS
KATRINA KAIF RARE PHOTOS
http://southactresstou.blogspot.com/2011/07/katrina-kaif-wallpapers.html
HOT SOUTH ACTRESS IN DIFFERENT DRESSES
http://southactresstou.blogspot.com/2011/08/south-actress.html
DOOKUDU LATEST MOVIE STILLS
http://southactresstou.blogspot.com/2011/08/dookudu-movie-stills.html
KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
TAMANNA HOT PHOTOS & VIDEOS
http://southactresstou.blogspot.com/2011/07/tamanna-wallpapers.html

FOR ONLY HOT GUYS SEE THIS
KAJAL AGARWAL LATEST HOT WITHOUT TOP
http://hotactress-kalyani.blogspot.com/2011/08/kajal-agarwal-hot-photos.html
HOT KATRINAKAIF WALLPAPERS
http://hotactress-kalyani.blogspot.com/2011/08/katrina-kaif-hot.html
SAMANTHA HOT WALLPAPERS
http://hotactress-kalyani.blogspot.com/2011/09/samantha-hot.html
TAMANNA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/tamanna-hot.html
TOLLYWOOD HOT ACTRESSES
http://hotactress-kalyani.blogspot.com/2011/08/hot-actrsess.html
SONAKSHI SINHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/sonakshi-sinha-hot.html
PRIYANKA CHOPRA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/priyanka-chopra-hot.html

LATEST AMISHA PATEL HOT PICS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TAPSEE DIFFERENT STILLS
http://hotactress-kalyani.blogspot.com/2011/08/tapsee-hot.html
PRIYAMANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/priyamani-hot.html

FOR FAST UPDATES IN TELUGU FILM INDUSTRY
TAMIL ACTRESS HOT PHOTO SHOOT
http://allyouwants.blogspot.com/2011/08/tamil-actress.html
SOUTH INDIAN HOT ACTRESS PICS
http://allyouwants.blogspot.com/2011/08/hot-actress.html
DEEPIKA PADUKONE IN DUM MARO DUM MOVIE
http://allyouwants.blogspot.com/2011/08/deepika-in-dum-maro-dum.html

PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html

PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

2221. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-04 17:13:38 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <e8b7671fahnjp9kpcr3s5qk7n31c8q89qg@4ax.com>
Source record: 3822

On 04 Sep 2011 14:05:13 GMT, dave <dave@dave.dave> wrote:

>Jeff Liebermann wrote:
>> Yep. That's a good way to provide some protection. However, there's
>> no protection while you're juggling connectors when you run the risk
>> of a static discharge to the center of the coax connector.
>>
>> I don't recall reading such a procedure in the user manual. However,
>> there are plenty of warning:
>> <http://www.mfjenterprises.com/pdffiles/MFJ-259B.pdf>
>> In section 4.1:
>> WARNING: NEVER APPLY EXTERNAL VOLTAGES OR RF SIGNALS TO THE
>> ANTENNA CONNECTOR.
>> and in 5.1:
>> WARNING: NEVER APPLY RF OR ANY OTHER EXTERNAL VOLTAGES TO THE
>> ANTENNA PORT OF THIS UNIT. THIS UNIT USES ZERO BIAS DETECTOR
>> DIODES THAT ARE EASILY DAMAGED BY EXTERNAL VOLTAGES OVER A
>> FEW VOLTS.
>> and in 5.2:
>> WARNING: NEVER APPLY EXTERNAL VOLTAGES OR RF SIGNALS TO THE
>> ANTENNA CONNECTOR. PROTECT THIS PORT FROM ESD.
>>
>> Clear enough. It would appear that MFJ is fully away of the fragile
>> nature of the input circuitry.

>I learned to ground everything working on transmitters the size of
>houses. The B+ is bled and grounded when you open the door, but you
>still ground anything metal before you touch it. It translated nicely to
>CMOS procedures on the bench. I am a grounding fool because I know any
>conductor can store a charge lethal to solid state and that any friction
>produces a charge. (I humidify, too!)

Such an extreme RF environment is not necessary to blow up the diodes.
None of the 3ea MFJ-259B boxes that I replaced required a transmitter
the size of a house to blow up. Much as the protective procedures
that you are recommending are genuinely useful, the instrument first
has to protect itself.

Assuming they were all fried by ESD, I tried to conjur a method that
would protect the existing design. As simple bleeder resistor to
ground will only help under trivial situations. The worst case
senario, of holding the instrument in one hand, and plugging in a
PL259 that is connected to an ungrounded antenna with a large static
charge, is all too common. Changing to an type-N connector will help
because the grounded shield is connected first, instead of the center

conductor, as in the SO-239.

Back to back diodes might work if the RF levels are low enough. The non-linearity of the diodes will cause measurement accuracy problems and rectify any off frequency RF going into antenna connector.

I'm tempted to try 1:1 RF broadband transformers which should work over octave frequency ranges. Better yet, a tuned 1:1 RF xformer, to improve the front end selectivity so that it can be used in an RF polluted environment[1]. That would work, but will also be very clumsy and expensive.

I know of several devices where failure is sufficiently common, that spare parts are included with the instrument, and the components are in easily accessible sockets. While not a great solution, it does make some sense.

Other than attaching a grounded anchor chain to the MFJ-259b, spraying holy water around the area to increase humidity, or carrying various anti-static protection devices, do you have any suggestions as to how the instrument could better protect itself from ESD?

[1] Attaching a wattmeter to the typical VHF antenna on a mountain top that is colocated with FM/TV xmitters will show a watt or three of RF. The front end of the MFJ-259b is not going to like that.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2222. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-04 17:42:39 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <cec7675vg6qaqfltj99l2hv7okmllciams@4ax.com>
Source record: 3823

On Sat, 03 Sep 2011 22:29:49 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>At HF/VHF and above, successful applications comes from throwing uF
>solutions at pF problems.

That's not a problem. In order to get obtain decent bypassing across
5 octaves of bandwidth (2-30MHz), one needs to have multiple capacitor
values and types in parallel. The self-resonant characteristics of
the capacitors is the limiting factor. At some frequency, every
capacitor, and its associated lead inductance, will exhibit an
impedance dip commonly known as series resonance. Below this
frequency, the capacitor will look ummm... like a capacitor. Above
this frequency, it will be more like an inductor.
<http://www.ecircuitcenter.com/Circuits/cmodel1/cmodel1.htm>

None this has anything useful to do with the 0.01uf caps in the
instrument. The diodes are in series with 47K resistors, which are
much larger than any inductive reactance that the 0.1uf bypass
capacitor might present. Since the MFJ-259b only works well up to
maybe a 10:1 VSWR or 5Kohms, the 47K is sufficiently larger than
whatever reactance is presented by the 0.01uf to make the capacitor
characteristics to not be an issue.

While component selection and circuit design are interesting topics,
the current problem is MFJ design quality, MFJ-259b, ESD protection,
and chronic detector diode failures.

--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2223. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-04 23:06:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ff0867thjqp9voejrdpf6vnlc9dce0iv6u@4ax.com>
Source record: 3824

On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:

>> http://www.binaural.info/shortwavepro/shortwave.htm
>
>Can't my computer already receive these stations?

Don't know.....

USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
or CW settings on my browser. As far as that goes, Firefox doesn't
even have an S-Meter!

$40 is sounding like a good deal. (Hope they have a cheaper app for
my Android.)

2224. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 03:22:04 UTC
From: Sal <sobars@aol.com>
Message-ID: <j41f8m$a5m$1@dont-email.me>
Source record: 3825

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:ff0867thjqp9voejrdpf6vnlc9dce0iv6u@4ax.com...
> On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:
>
>>> http://www.binaural.info/shortwavepro/shortwave.htm
>>
>>Can't my computer already receive these stations?
>
> Don't know.....
>
> USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
> or CW settings on my browser. As far as that goes, Firefox doesn't
> even have an S-Meter!
>
> $40 is sounding like a good deal. (Hope they have a cheaper app for
> my Android.)

I just downloaded the free trial zip file and scanned it. It came up clean and had a size about 3 MB. I set up to unzip it and repeat the scan, but the unzipper reported no files to extract. There were no other errors reported, like cannot find file, corrupt file -- simply no files.

Others, please post your results if you try the free trial download-and-unzip process. TKS.

Sal

2225. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 06:58:26 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <jir867941umgrs7kjbqm5ki2cmu7qtossq@4ax.com>
Source record: 3826

On Sat, 03 Sep 2011 09:25:31 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>Apparently you missed my previous rant on the topic. See the
>schematic extract of the RF section at:
><http://802.11junk.com/jeffl/crud/MFJ-259B-RF-section.jpg>
>Notice the directly connected diodes. The diodes in question are
>Avago HSMS-2820 zero bias shottky diodes.
><http://www.avagotech.com/docs/AV02-1320EN>
>15V Max PIV is rather low. It won't take much voltage at the antenna
>go exceed 15V. The two 47K resitors going to 0.01uf bypass caps make
>an effective ground to any fast risetime voltage spike at the antenna.
>An important clue is that BOTH D3 and D4 appear to be blown each time,
>which implies an external failure, not a component failure.

Argh. I just started working on the analyzer, and found a few errors,
all of which are my mistakes.

1. The antenna analyzer that arrived (3 days late) today is not the
expected MFJ-259B but an MFJ-269. The difference is that the MFJ-269
goes up to UHF frequencies. The front end is similar, but not
identical.

2. The MFJ-269 has a type-N connector, while the MFJ-259 has a UHF
SO-239 connector. So much for the idea of substituting a type-N
connector.

3. Despite my idea of installing a bleeder resistor on the antenna
connector to drain off the static charge, the antenna connector
already shows 50 ohms resistance to ground. I missed this path
because of the rather difficult to read schematic of the MFJ-259 RF
section at:
<http://802.11junk.com/jeffl/crud/MFJ-259B-RF-section.jpg>
The path is from the antenna connector, through R24, L11, and then to
ground.

The MFJ-269 schematic is easier to read at:
<http://802.11junk.com/jeffl/crud/MFJ-269-RF-section.jpg>
which goes through R88, L12, and then to ground.

What bugs me is that the diodes are blowing up despite this rather low
resistance to ground. Either hams are finding some rather high power
ESD sources with which to blow up their analyzers, or some other
failure mechanism is involved.

I haven't finished working on the MFJ-269 quite yet. A report and
photos when I'm done.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2226. Knowledge Base Software

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 12:58:45 UTC
From: michael moody <michael.moody84@gmail.com>
Message-ID: <56558cdc-d251-49f7-818c-6db787f575a7@e34g2000prn.googlegroups.com>
Source record: 3827

Our easy to us Knowledge Base Software allows you to get free user generated content, organize data, share information and increase search engine traffic.

Knowledge Base Software | Knowledgebase software

2227. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 15:47:21 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j42qu7$ds5q$1@tr22n12.aset.psu.edu>
Source record: 3828

On 9/5/2011 2:58 AM, Jeff Liebermann wrote:

> What bugs me is that the diodes are blowing up despite this rather low
> resistance to ground. Either hams are finding some rather high power
> ESD sources with which to blow up their analyzers, or some other
> failure mechanism is involved.

I've had more than one device damaged while operating around High power equipment, with probable RF in the shack excursions. My MFJ analyzer, an old Sony camera that had it's floppy drive head destroyed, and a couple other things I cannot remember.

I haven't had any problem with the analyzer since installing my dummy load on it.

But that brings up something interesting. You're reading 50 Ohms on the input connector? Isn't that going to make *all* readings somewhere near 1:1?

- 73 de Mike N3LI -

2228. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 16:19:01 UTC
From: Newsgroupie <TI7179@TheSource.com>
Message-ID: <79t967926mkldcjro6ub94jm5ut1ens747@4ax.com>
Source record: 3829

On Sun, 4 Sep 2011 20:22:04 -0700, "Sal" <sobars@aol.com> wrote:

>
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:ff0867thjqp9voejrdpf6vnlc9dce0iv6u@4ax.com...
>> On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:
>>
>>>> http://www.binaural.info/shortwavepro/shortwave.htm
>>>
>>>Can't my computer already receive these stations?
>>
>> Don't know.....
>>
>> USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
>> or CW settings on my browser. As far as that goes, Firefox doesn't
>> even have an S-Meter!
>>
>> $40 is sounding like a good deal. (Hope they have a cheaper app for
>> my Android.)
>
>I just downloaded the free trial zip file and scanned it. It came up clean
>and had a size about 3 MB. I set up to unzip it and repeat the scan, but
>the unzipper reported no files to extract. There were no other errors
>reported, like cannot find file, corrupt file -- simply no files.
>
>Others, please post your results if you try the free trial
>download-and-unzip process. TKS.
>
>Sal
>

Simply change the extension to rar instead of zip and it will extract just fine.
This does not instill confidence in this person/company. I only downloaded it to
check for you, and now we have the answer.

Bob, KB2ZGN

2229. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 16:31:05 UTC
From: dave <dave@dave.dave>
Message-ID: <4e64f949$0$5545$bd467cd0@news.dslextreme.com>
Source record: 3830

Mike Coslo wrote:

> On 9/5/2011 2:58 AM, Jeff Liebermann wrote:
>
>> What bugs me is that the diodes are blowing up despite this rather low
>> resistance to ground. Either hams are finding some rather high power
>> ESD sources with which to blow up their analyzers, or some other
>> failure mechanism is involved.
>
> I've had more than one device damaged while operating around High power
> equipment, with probable RF in the shack excursions. My MFJ analyzer, an
> old Sony camera that had it's floppy drive head destroyed, and a couple
> other things I cannot remember.
>
> I haven't had any problem with the analyzer since installing my dummy
> load on it.
>
> But that brings up something interesting. You're reading 50 Ohms on the
> input connector? Isn't that going to make *all* readings somewhere near 1:1?
>
>
> - 73 de Mike N3LI -

Is it possible that 50 Ohms at DC is much higher Z at MF/HF/VHF?

2230. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 16:33:21 UTC
From: dave <dave@dave.dave>
Message-ID: <4e64f9d1$0$5516$bd467cd0@news.dslextreme.com>
Source record: 3831

Richard Clark wrote:

> On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:
>
>>> http://www.binaural.info/shortwavepro/shortwave.htm
>>
>>Can't my computer already receive these stations?
>
> Don't know.....
>
> USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
> or CW settings on my browser. As far as that goes, Firefox doesn't
> even have an S-Meter!
>
> $40 is sounding like a good deal. (Hope they have a cheaper app for
> my Android.)

That is an internet radio tuner with fake buttons. $40 is a lot of money to spend on make-believe. You can buy a real radio for $40 (a nice one if you shop around).

2231. Re: Test - osc.jpg (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 17:43:41 UTC
From: Newsgroupie <TI7179@TheSource.com>
Message-ID: <gh2a67phgfu6h4epmmnq5nbgksfras4aat@4ax.com>
Source record: 3832

On 01 Sep 2011 18:04:24 GMT, Bert <bert@iphouse.com> wrote:

>In news:k3fv57lqjtf7gooo0r9qukjc3opfph68gc@4ax.com MM6AHJ
><banjobusters@grand.old.opry.com> wrote:
>
>> Test
>
>Many news providers, including mine, filter out all binary posts to
>non-binary groups like this one, so your images won't be seen by most
>readers.

Yup, mine too.

2232. Re: Round & round the rugged rock

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 18:03:06 UTC
From: Newsgroupie <TI7179@TheSource.com>
Message-ID: <c83a671bshds98t46j2nhcgru3uj6o1q5i@4ax.com>
Source record: 3833

On Thu, 01 Sep 2011 18:01:54 +0100, Sniff ma Diff!
<banjobusters@grand.old.opry.com> wrote:

>My problem is my rotator, it has twin core cable from its little
>remote, so theres no way to determine where Im pointing.
>So thats my query, anyone any ideas how I can show something
>downstairs, while this is turning in the loft?

Sure, salvage some components out of some dead mice or printers and come up with an optical positioning indicator using the salvaged IR emitters and receivers. A simple cardboard disk with slot(s) that will let you know when it is in certain positions. The more you use, the more accurate the positioning. You could make it simple, or more complicated by encoding the signals. You didn't say you couldn't run new wires, just asking if you could send a control signal down one of the wires already there, so I hope this isn't a complete waste.

Bob, KB2ZGN

2233. Re: Knowledge Base Software

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 18:30:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kn4a67l5i8lg9qbho5e21rc1b9v4ds5g76@4ax.com>
Source record: 3834

On Mon, 5 Sep 2011 05:58:45 -0700 (PDT), michael moody
<michael.moody84@gmail.com> wrote:

>Our easy to us Knowledge Base Software allows you to get free user
>generated content, organize data, share information and increase
>search engine traffic.
>
>Knowledge Base Software | Knowledgebase software

Yeah, I get it: knowledge base software (shouldn't it be knowledge
baseD software?).

Does it use fact base(d) data, or is it belief mode compatible with
Rick Perry science? The simple entry of his name guarantees 34
Million hits in search engine traffic. I would suspect all of that is
free user generated content and tea party organized.

73's
Richard Clark, KB7QHC

2234. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 20:47:53 UTC
From: Sal <sobars@aol.com>
Message-ID: <j43ch7bsm1@dont-email.me>
Source record: 3835

"Newsgroupie" <TI7179@TheSource.com> wrote in message
news:79t967926mkldcjro6ub94jm5ut1ens747@4ax.com...
> On Sun, 4 Sep 2011 20:22:04 -0700, "Sal" <sobars@aol.com> wrote:
>
>>
>>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>>news:ff0867thjqp9voejrdpf6vnlc9dce0iv6u@4ax.com...
>>> On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:
>>>
>>>>> http://www.binaural.info/shortwavepro/shortwave.htm
>>>>
>>>>Can't my computer already receive these stations?
>>>
>>> Don't know.....
>>>
>>> USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
>>> or CW settings on my browser. As far as that goes, Firefox doesn't
>>> even have an S-Meter!
>>>
>>> $40 is sounding like a good deal. (Hope they have a cheaper app for
>>> my Android.)
>>
>>I just downloaded the free trial zip file and scanned it. It came up
>>clean
>>and had a size about 3 MB. I set up to unzip it and repeat the scan, but
>>the unzipper reported no files to extract. There were no other errors
>>reported, like cannot find file, corrupt file -- simply no files.
>>
>>Others, please post your results if you try the free trial
>>download-and-unzip process. TKS.
>>
>>Sal
>>
>
> Simply change the extension to rar instead of zip and it will extract just
> fine.
> This does not instill confidence in this person/company. I only downloaded
> it to
> check for you, and now we have the answer.
>
> Bob, KB2ZGN

Thanks, Bob,

Funny but unrelated to this file, I downloaded a different .rar a few days ago and discovered it needs an extractor I didn't have. Now I really have to get that rar extractor. Who owns the rar code rights and why do they hate zip??? :-(

Sal
(KD6VKW)

2235. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 20:57:58 UTC
From: Sal <sobars@aol.com>
Message-ID: <j43d43$g1f$1@dont-email.me>
Source record: 3836

"dave" <dave@dave.dave> wrote in message
news:4e64f9d1$0$5516$bd467cd0@news.dslextreme.com...
> Richard Clark wrote:
>
>> On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:
>>
>>>> http://www.binaural.info/shortwavepro/shortwave.htm
>>>
>>>Can't my computer already receive these stations?
>>
>> Don't know.....
>>
>> USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
>> or CW settings on my browser. As far as that goes, Firefox doesn't
>> even have an S-Meter!
>>
>> $40 is sounding like a good deal. (Hope they have a cheaper app for
>> my Android.)
>
> That is an internet radio tuner with fake buttons. $40 is a lot of money
> to spend on make-believe. You can buy a real radio for $40 (a nice one
> if you shop around).

That changes things for me. Over and above ham gear, I already have a dozen
or so real radios, a standalone Internet radio (Livio) and I have
I-Heart-Radio (free) on several computers.

I was imagining this download was a client front-end for a bank of SDRs
hooked to servers, a la a multi-user remote base. Guess not.

"Sal"

2236. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 21:20:10 UTC
From: Ben / SM0KBW <kbw@allt2.se>
Message-ID: <9cksoaFt5hU1@mid.individual.net>
Source record: 3837

```
Sal skrev 2011-09-05 22:47:
> "Newsgroupie"<TI7179@TheSource.com> wrote in message
> news:79t967926mkldcjro6ub94jm5ut1ens747@4ax.com...
>> On Sun, 4 Sep 2011 20:22:04 -0700, "Sal"<sobars@aol.com> wrote:
>>
>>>
>>> "Richard Clark"<kb7qhc@comcast.net> wrote in message
>>> news:ff0867thjqp9voejrdpf6vnlc9dce0iv6u@4ax.com...
>>>> On 03 Sep 2011 13:59:53 GMT, dave<dave@dave.dave> wrote:
>>>>
>>>>>> http://www.binaural.info/shortwavepro/shortwave.htm
>>>>>
>>>>> Can't my computer already receive these stations?
>>>>
>>>> Don't know.....
>>>>
>>>> USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
>>>> or CW settings on my browser. As far as that goes, Firefox doesn't
>>>> even have an S-Meter!
>>>>
>>>> $40 is sounding like a good deal. (Hope they have a cheaper app for
>>>> my Android.)
>>>
>>> I just downloaded the free trial zip file and scanned it. It came up
>>> clean
>>> and had a size about 3 MB. I set up to unzip it and repeat the scan, but
>>> the unzipper reported no files to extract. There were no other errors
>>> reported, like cannot find file, corrupt file -- simply no files.
>>>
>>> Others, please post your results if you try the free trial
>>> download-and-unzip process. TKS.
>>>
>>> Sal
>>>
>>
>> Simply change the extension to rar instead of zip and it will extract just
>> fine.
>> This does not instill confidence in this person/company. I only downloaded
>> it to
>> check for you, and now we have the answer.
>>
>> Bob, KB2ZGN
>
> Thanks, Bob,
```

>
> Funny but unrelated to this file, I downloaded a different .rar a few days
> ago and discovered it needs an extractor I didn't have. Now I really have
> to get that rar extractor. Who owns the rar code rights and why do they
> hate zip??? :-(
>
> Sal
> (KD6VKW)
>
>

I've used 7-zip for years and haven't needed any other program to
compress / decompress files. It's free and does a damn good job at
compressing files too.

Ben / SM0KBW

2237. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 22:03:50 UTC
From: Newsgroupie <TI7179@TheSource.com>
Message-ID: <ahha67t5eeo9d8nb1k41qgdspqnccedvcj@4ax.com>
Source record: 3838

On Mon, 5 Sep 2011 13:47:53 -0700, "Sal" <sobars@aol.com> wrote:

>
>"Newsgroupie" <TI7179@TheSource.com> wrote in message
>news:79t967926mkldcjro6ub94jm5ut1ens747@4ax.com...
>> On Sun, 4 Sep 2011 20:22:04 -0700, "Sal" <sobars@aol.com> wrote:
>>
>>>
>>>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>>>news:ff0867thjqp9voejrdpf6vnlc9dce0iv6u@4ax.com...
>>>> On 03 Sep 2011 13:59:53 GMT, dave <dave@dave.dave> wrote:
>>>>
>>>>>> http://www.binaural.info/shortwavepro/shortwave.htm
>>>>>
>>>>>Can't my computer already receive these stations?
>>>>
>>>> Don't know.....
>>>>
>>>> USB is snap, but I cannot for the life of me find the AM, LSB, RTTY,
>>>> or CW settings on my browser. As far as that goes, Firefox doesn't
>>>> even have an S-Meter!
>>>>
>>>> $40 is sounding like a good deal. (Hope they have a cheaper app for
>>>> my Android.)
>>>
>>>I just downloaded the free trial zip file and scanned it. It came up
>>>clean
>>>and had a size about 3 MB. I set up to unzip it and repeat the scan, but
>>>the unzipper reported no files to extract. There were no other errors
>>>reported, like cannot find file, corrupt file -- simply no files.
>>>
>>>Others, please post your results if you try the free trial
>>>download-and-unzip process. TKS.
>>>
>>>Sal
>>>
>>
>> Simply change the extension to rar instead of zip and it will extract just
>> fine.
>> This does not instill confidence in this person/company. I only downloaded
>> it to
>> check for you, and now we have the answer.
>>
>> Bob, KB2ZGN

>
>Thanks, Bob,
>
>Funny but unrelated to this file, I downloaded a different .rar a few days
>ago and discovered it needs an extractor I didn't have. Now I really have
>to get that rar extractor. Who owns the rar code rights and why do they
>hate zip??? :-(
>
>Sal
>(KD6VKW)
>
Are you using WinRAR? It's pretty much the de facto standard in the binary groups. As I told the OP, I wouldn't trust any program that archives a file in RAR and labels it as a zip format. I suspect this program does it to avoid having to pay license fees to use a what many feel to be a superior archiving program format. Apparently the archiving program thinks that RAR is better as well otherwise I think he would stick with using the zip archive code.

Bob KB2ZGN

2238. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 22:40:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F58585241F5nonenowhere@88.198.244.100>
Source record: 3839

Mike Coslo <mjc5@psu.edu> wrote in
news:j42qu7$ds5q$1@tr22n12.aset.psu.edu:

> But that brings up something interesting. You're reading 50 Ohms on
> the input connector? Isn't that going to make *all* readings somewhere
> near 1:1?

If you look at the circuit, there is a DC path from the centre pin, via the 50 ohm resistor that forms part of the measurement bridge, and an RFC to ground. That would look like 50 ohms at DC, but it will not prevent the measurement bridge working in the way you suggest.

Owen

2239. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 22:47:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F5859604D4EEnonenowhere@88.198.244.100>
Source record: 3840

Jeff Liebermann <jeffl@cruzio.com> wrote in
news:jir867941umgrs7kjbqm5ki2cmu7qtossq@4ax.com:

> What bugs me is that the diodes are blowing up despite this rather low
> resistance to ground. Either hams are finding some rather high power
> ESD sources with which to blow up their analyzers, or some other
> failure mechanism is involved.

But the reality is that people do damage these things... and so the method you suggested earlier is not likely to be sufficient to protect them.

I am careful to avoid connecting an instrument of this type to an antenna system unless I have drained any static charge first, and avoid other transmitters on air nearby.

An easy trap is to connect the analyser or the like to an antenna, then start working on the antenna without considerig the risk of introducing a spike during the work.

Painful, but worth disconnecting immediately after each measurement. Not as painful if BNC connectors are used.(Why did they build those things with SO239... don't answer!)

Owen

2240. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 23:46:16 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j43n06$ds52$1@tr22n12.aset.psu.edu>
Source record: 3841

On 9/5/2011 6:47 PM, Owen Duffy wrote:
> Jeff Liebermann<jeffl@cruzio.com> wrote in
> news:jir867941umgrs7kjbqm5ki2cmu7qtossq@4ax.com:
>
>> What bugs me is that the diodes are blowing up despite this rather low
>> resistance to ground. Either hams are finding some rather high power
>> ESD sources with which to blow up their analyzers, or some other
>> failure mechanism is involved.
>
> But the reality is that people do damage these things... and so the
> method you suggested earlier is not likely to be sufficient to protect
> them.

> I am careful to avoid connecting an instrument of this type to an
> antenna system unless I have drained any static charge first, and avoid
> other transmitters on air nearby.

I think you are correct. I do think that more care needs to be taken with these devices than with a lot of other electronic items Hams use. I liken them to RF attenuator blocks. You see a lot of them in company repair shops, because people are often trying to put too much power through them.

After getting the new replacement analyzer, and using the dummy load, and I do the static drain too, plus I keep it away from other people, it's lasted FB.

- 73 de Mike N3LI -

2241. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-05 23:57:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b7oa67583qr91iv4st1m1ia5p4dfqv0db2@4ax.com>
Source record: 3842

On Mon, 05 Sep 2011 19:46:16 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>I liken them to RF attenuator blocks. ... people are often trying to put too much power
>through them.

This leaves me wondering about intentions:

"Must - get - more - power - out - of this attenuator!"

73's
Richard Clark, KB7QHC

2242. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-06 00:21:56 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <suna67p8v1ru72n07uf25h76rkh1k2s2iv@4ax.com>
Source record: 3843

On Mon, 05 Sep 2011 11:47:21 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>On 9/5/2011 2:58 AM, Jeff Liebermann wrote:
>
>> What bugs me is that the diodes are blowing up despite this rather low
>> resistance to ground. Either hams are finding some rather high power
>> ESD sources with which to blow up their analyzers, or some other
>> failure mechanism is involved.
>
>I've had more than one device damaged while operating around High power
>equipment, with probable RF in the shack excursions. My MFJ analyzer, an
>old Sony camera that had it's floppy drive head destroyed, and a couple
>other things I cannot remember.

I used to have a Sony Mavica MVC-FD73 camera. Nice camera for 640x480
closeups. I gave it as a present to a friend, who bashed in the LCD
display. I repaired it, and she bashed it in again. I gave up.

Per one of my previous postings, none of the failures coincided with
any high power RF nearby. One was connected to an antenna when it
probably failed, but there were no transmitters active. I've tried
interrogating the owners and none claim that they did anything
potentially destructive. I've been assuming it was ESD, not RF that
is killing the diodes, but I'm not sure.

I just tested the diodes. 3 diodes were open, one was ok.

>I haven't had any problem with the analyzer since installing my dummy
>load on it.

Probably a good idea.

>But that brings up something interesting. You're reading 50 Ohms on the
>input connector? Isn't that going to make *all* readings somewhere near 1:1?

Owen answered that question. L12 (100 uH) is in series with the 50
bridge "load" and therefore allows measurements to be made without
padding the antenna with an additional 50 ohms.

I threw together a web page on the MFJ-269 repair:
<http://802.11junk.com/jeffl/MFJ-269-repair/>
Hopefully, this will help anyone following my succession of mistakes
and screwups. I'm not really done as I want to verify that it's
working correctly and hopefully not require recalibration.

Incidentally, no lock washers on any of the screws inside.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2243. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-06 04:58:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F589858F8BE0nonenowhere@88.198.244.100>
Source record: 3844

Mike Coslo <mjc5@psu.edu> wrote in news:j43n06$ds52$1
@tr22n12.aset.psu.edu:

> ;... plus I keep it away from other people,
> it's lasted FB.

That is probably key, don't trust other people... and be pretty wary of one's self!

It is interesting you mention the Other Persons thing... I am in the process of drafting a web article commenting on the advice that is so common these days on online fora, "can you borrow an analyser?..."

This is almost always offered to some newbie who is having trouble "tuning up his antenna".

Most don't understand complex numbers, impedance, transmission lines, etc etc and someone tells them get an analyser and tune for resonance. I can only guess that the advisers are equally lacking in knowledge and experience, but I will concede that the analyser dumbed down to a VSWR meter with self contained RF source than can be tuned outside band limits, can be a pretty handy thing.

But despite the fact that adjusting many, if not most antennas for minimum VSWR is the sensible objective, the resonance brigade chimes in with make X zero looking into some arbitrary length of feed line, a condition which isn't always associated with minimum VSWR and may actually not be achievable. Some newbies have clipped their mobile whip away to make that discovery, but perhaps without understanding that it was a likely outcome from that strategy.

So Mike, it is likely that someone borowing an analyser to fix a problem wont obtain real benefit, but may damage it in the process.

Owen

2244. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-06 05:29:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj6bbo8.ib1.gsm@cable.mendelson.com>
Source record: 3845

Sal wrote:
>
> Funny but unrelated to this file, I downloaded a different .rar a few days
> ago and discovered it needs an extractor I didn't have. Now I really have
> to get that rar extractor. Who owns the rar code rights and why do they
> hate zip??? :-(

Don't waste your time. If you download a zip file that is really a rar file,
or some other mislabled monstrosity, it's usually a scam.

Make sure your virus checker is a good one and it is up to date.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2245. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-06 18:23:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p3pc6753m552opvve8qjoc8ba34prcus4c@4ax.com>
Source record: 3846

On Mon, 05 Sep 2011 17:21:56 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

> One was connected to an antenna when it
>probably failed, but there were no transmitters active.

Perhaps not intentional Ham transmissions.

Roy often counseled about how his experience included many interfering
commercial sources. And this in a rather remote reach outside
Portland, I believe.

"No one ever expects the Spanish Inquisition!"

73's
Richard Clark, KB7QHC

2246. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-06 18:53:07 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <7fqc67he0bvdpiqdskuj1m3531fac7ielm@4ax.com>
Source record: 3847

On Tue, 06 Sep 2011 11:23:53 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Mon, 05 Sep 2011 17:21:56 -0700, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>
>> One was connected to an antenna when it
>>probably failed, but there were no transmitters active.
>
>Perhaps not intentional Ham transmissions.

The first step to solving a problem is to blame someone. I prefer not
to blame hams.

Actually, I lied. Two of those that I've repaired were attached to
antennas. However, the locations are not conducive to having nearby
transmitters. One is in the deep dark forest, where the nearest
neighbor, much less nearest possible RF source, is about 1/2 mile
away. The other lives in a nearby rural area. No forest, but also no
nearby transmitters. However, it's possible that the transmitter in
question may have been one owned by the hams in question. Keying a
nearby HT or mobile might have been the culprit. Dunno.

>Roy often counseled about how his experience included many interfering
>commercial sources. And this in a rather remote reach outside
>Portland, I believe.

Attach a wattmeter to any VHF antenna on a mountain top with FM/TV
transmitters, and you'll get a watt or more of RF indicated. Nice way
to blow up the instrument.

>"No one ever expects the Spanish Inquisition!"

The Spanish Inquisition had quite a bit of support from those outside
the clergy. Much of it was about confiscating the property of alleged
heretics. When it grew in size to become a source of regular revenue,
it became an institution (much like our war on drugs). It fizzled out
when they ran out of victims.

At this point, I don't know what is causing the failures. However, I
do know what to do. Add a dummy load and buy some more diodes.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2247. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 06:05:00 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1315375500@panix.com>
Source record: 3848
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

2248. HOT PEOPLE HOT AND SEXY VIDEOS FOR U SEE AND ENJOY

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 10:50:53 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <d06766de-c956-422d-9418-2e76d9eeacc2@i9g2000yqk.googlegroups.com>
Source record: 3849

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

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massage hot videos
http://hotvideosonlyx.blogspot.com/2010/09/massage-hot-videos.html
romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
hollywood hot
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot.html
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tollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/tollywood-hot-kiss.html

ALL INTERVIEW QUESTIONS

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http://allinterviewsquestions.blogspot.com/2009/02/hardware-interview-questions.html
SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html
dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2249. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 13:16:03 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <a60af6cf-da95-4cd3-a341-6e63f6382b7e@u26g2000yqu.googlegroups.com>
Source record: 3850

hi Just Visite These Sites
http://fashion1298.blogspot.com

http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

http://fashion1299.blogspot.com

2250. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 13:27:08 UTC
From: dave <dave@dave.dave>
Message-ID: <4e67712b$0$5505$bd467cd0@news.dslextreme.com>
Source record: 3701

Jeff Liebermann wrote:

>
> Actually, I lied. Two of those that I've repaired were attached to
> antennas. However, the locations are not conducive to having nearby
> transmitters. One is in the deep dark forest, where the nearest
> neighbor, much less nearest possible RF source, is about 1/2 mile
> away. The other lives in a nearby rural area. No forest, but also no
> nearby transmitters. However, it's possible that the transmitter in
> question may have been one owned by the hams in question. Keying a
> nearby HT or mobile might have been the culprit. Dunno.

> Attach a wattmeter to any VHF antenna on a mountain top with FM/TV
> transmitters, and you'll get a watt or more of RF indicated. Nice way
> to blow up the instrument.
>

>
> At this point, I don't know what is causing the failures. However, I
> do know what to do. Add a dummy load and buy some more diodes.
>

If you do not short the center conductor (on the DUT) to ground
immediately before connecting to the analyzer you risk discharging a
large "capacitor" directly into the instrument. If I am at an antenna
farm I am grounding all my test gear prior to putting it into service.
There is a Ground lug on the 259B right next to the SO239. They
provide a Type N adaptor with a new meter, too, BTW.

2251. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 13:41:34 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j47sae$oh8$1@dont-email.me>
Source record: 3702

MFJ isn't the only ones that can suffer at the hands of others.

I was trying to locate some interference using a UHF Yagi and
a Motorola R2018 service monitor. Do not key up a hand held in
front of the antenna. At least Motorola anticipated that, and
it took out the picofuse behind the antenna connector instead
of the front end mixer.

Jeff-1.0

--
"Everything from Crackers to Coffins"

2252. Isolating an active mobile phone using metal boxes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 14:18:59 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <j47ugl$8u1$1@dont-email.me>
Source record: 3703

```
I finally did it with 2 tin boxes. :)
```

--
@~@ You have the right to remain silent.
/ v \ Simplicity is Beauty!
/(_)\ May the Force and farces be with you!
^ ^ (x86_64 Ubuntu 9.10) Linux 2.6.39.3
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

2253. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 15:54:25 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <on2f67hporgk0l67tq6lj83kd3etr1o0dc@4ax.com>
Source record: 3704

On 07 Sep 2011 13:27:08 GMT, dave <dave@dave.dave> wrote:

>If you do not short the center conductor (on the DUT) to ground
>immediately before connecting to the analyzer you risk discharging a
>large "capacitor" directly into the instrument.

Good point except that none of the 3 analyzers that failed were
(allegedly) attached to equipment. They were attached to antennas.
Antennas normally do not have BFC's (big fat capacitors) attached, but
do build up static charges. With the humidity currently at 60% or
more, I don't think that's likely. Also, any antenna design, that
would fry an analyzer, might also fry a radio front end. It's
possible, but unlikely.

>If I am at an antenna
>farm I am grounding all my test gear prior to putting it into service.
>There is a Ground lug on the 259B right next to the SO239. They
>provide a Type N adaptor with a new meter, too, BTW.

I carry a neon lamp line tester in my tool box. It's useful for
checking AC power, but also for detecting high voltages on antenna
terminals. It's amazing what I find at broadcast sites.

The plot thickens. I checked the accuracy of the MFJ-269 and is was
off on the real part of anything it was measuring about +10%. A good
50 ohm load would read about 56 ohms. It didn't take long to find the
culprit. Instead of 51.1 ohms (1%), R88 showed 54 ohms, while R85 and
R86 read 52 ohms (or there about within the limits of my cheapo
ohms-guesser). It therefore seems possible that the owner had
transmitted into the instrument (even though he denies it). That also
might explain how 3 out of 4 diodes were found fused open. Most
diodes I've seen end up shorted when the junction is punctured. I'll
be replacing all the 51.1 ohm resistors.

Meanwhile, I added a grounded load cap, returned the instrument to its
owner, extorted a free lunch, applied the requisite instrument safety
lecture, and warned him of the accuracy problem. The dip in the VSWR
curve is all he needs at this time, which is unaffected by bridge
imbalance.

--
Jeff Liebermann jeffl@cruzio.com
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2254. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 16:19:56 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <115f67lb7am1bmilm2f7viguor3ulabppv@4ax.com>
Source record: 3705

On Wed, 07 Sep 2011 08:41:34 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>MFJ isn't the only ones that can suffer at the hands of others.
>
>I was trying to locate some interference using a UHF Yagi and
>a Motorola R2018 service monitor. Do not key up a hand held in
>front of the antenna. At least Motorola anticipated that, and
>it took out the picofuse behind the antenna connector instead
>of the front end mixer.

Well, do the math. The front end of the service monitor is 50 ohms.
The fuse is probably 0.1A. Power to blow the fuse is:
P = I^2 * R = 0.1^2 * 50 = 0.5 watts = +27dBm
I'll guess a 10dBi yagi and a 3 watt (+35dBm) HT into a 0dBi rubber
ducky.

[Q]: How close to the antenna can you use the HT before you blow the
fuse?

Go thee unto:
<http://www.terabeam.com/support/calculations/som.php>
and inscribe the tx power (in dBm) and the antenna gains into the
boxes. Use 0dB for coax losses and 440MHz for the frequency. Don't
worry about RX sensitivity. Plug in different values of distance
(miles) until you get an RX signal level of +27dBm. I get:
0.0003 miles = 1.6 ft

So, stay at least 1.6 ft away from your antenna and you won't blow the
fuse. Please change my guesswork to match reality and recalculate.

Drivel: Yes, I know we're close to the near field and the numbers
aren't very accurate.

>Jeff-1.0

Jeff 2.0 (the upgraded version).

--
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Skype: JeffLiebermann AE6KS 831-336-2558

2255. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 17:17:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ds8f671qeumoiu8kg1eofb23i97sacf2f3@4ax.com>
Source record: 3706

On Wed, 07 Sep 2011 09:19:56 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>Well, do the math. The front end of the service monitor is 50 ohms.
>The fuse is probably 0.1A.

I don't suppose the reference to a "picofuse" is literal to amperage
(pA), but the introduction of a 0.1A fuse is equally a supposition (I
suppose, because from my experience with precision power measurement
equipment, they often used a commercially available, specialty fuse
rated at 10mA - a Wollaston wire).

>Power to blow the fuse is:
> P = I^2 * R = 0.1^2 * 50 = 0.5 watts = +27dBm
P = I^2 * R = 0.01^2 * 50 = 0.005 watts
>I'll guess a 10dBi yagi and a 3 watt (+35dBm) HT into a 0dBi rubber
>ducky.
>
>[Q]: How close to the antenna can you use the HT before you blow the
>fuse?

Getting too close (less than 5 to 10 wavelengths, and for "gain"
antennas, 20 wavelengths or more) negates directivity.

>Go thee unto:
><http://www.terabeam.com/support/calculations/som.php>
...
> I get: 0.0003 miles = 1.6 ft

Which is extremely suspect.

>Drivel: Yes, I know we're close to the near field and the numbers
>aren't very accurate.

Which makes the exercise rather pointless.

73's
Richard Clark, KB7QHC

2256. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 17:48:55 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j48aq7$9gl$1@news.jpl.nasa.gov>
Source record: 3707

On 9/7/2011 8:54 AM, Jeff Liebermann wrote:
> On 07 Sep 2011 13:27:08 GMT, dave<dave@dave.dave> wrote:
>
>> If you do not short the center conductor (on the DUT) to ground
>> immediately before connecting to the analyzer you risk discharging a
>> large "capacitor" directly into the instrument.
>
> Good point except that none of the 3 analyzers that failed were
> (allegedly) attached to equipment. They were attached to antennas.
> Antennas normally do not have BFC's (big fat capacitors) attached, but
> do build up static charges. With the humidity currently at 60% or
> more, I don't think that's likely.

Actually, humidity doesn't affect the charging all that much. What humidity affects is the leakage current across dirty insulators. P-static is a nice example of static charging in rain at 100% humidity, for instance.

It's true that dry dust or blowing snow are more notorious for charging, but just the clear sky current could provide some charging.

Also, any antenna design, that
> would fry an analyzer, might also fry a radio front end. It's
> possible, but unlikely.

I don't know about that. A LNA with a FET front end might be an example of a ESD sensitive thing, but for HF, where we're usually more concerned about instantaneous dynamic range and strong signal handling, a more robust front end is common. One of those +20dBm LO mixers, for instance, is going to be quite robust.

I can think of a lot of antennas that won't be too hard on a radio front end that would cook a delicate detector diode hooked directly up to the antenna.

>
>> If I am at an antenna
>> farm I am grounding all my test gear prior to putting it into service.
>> There is a Ground lug on the 259B right next to the SO239. They
>> provide a Type N adaptor with a new meter, too, BTW.
>
> I carry a neon lamp line tester in my tool box. It's useful for
> checking AC power, but also for detecting high voltages on antenna
> terminals. It's amazing what I find at broadcast sites.

There's a whole literature on making neon lamp blinkers with an antenna
and a ground.

2257. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 18:43:40 UTC
From: dave <dave@dave.dave>
Message-ID: <4e67bb5c$0$5539$bd467cd0@news.dslextreme.com>
Source record: 3708

Jeff Liebermann wrote:

> ohms-guesser). It therefore seems possible that the owner had
> transmitted into the instrument (even though he denies it).

Why would anyone connect that antenna analyzer to a transmitter (unless
using the BNC?)

2258. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 18:47:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fcdf67tlgr3avhbdibk77palvvi61k06sn@4ax.com>
Source record: 3709

On Wed, 07 Sep 2011 10:48:55 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>but just the clear sky current could provide some charging.

There is a earth-sky current in the femtoamperes per cmï¿½ that has a
constant potential gradient on the order of 600V/m (or something like
that). This current is the return path for all lightning strike
charge transfers, world-wide.

Few dipoles are co-planar, parallel wrt ground.

>Actually, humidity doesn't affect the charging all that much. What
>humidity affects is the leakage current across dirty insulators.

Which could easily overwhelm this femtoampere charge where a gigaOhm
leakage is trivial (zealous Hams using teflon technology?).

Actually measuring this current (ca 1970s) required using two
polonium-210 coated probes (what are still available as static brushes
for vinyl records) feeding FETs.

The following link:
http://www.angelfire.com/electronic/cwillis/rad/brush.html
illustrates what the brush is like, and its electrical attributes.
Another source, the manufacturer (which deeply hides the polonium
reference):
http://www.nrdstaticcontrol.com/doc/microbalance.pdf

73's
Richard Clark, KB7QHC

2259. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 21:46:03 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j48omn$gc6u$1@tr22n12.aset.psu.edu>
Source record: 3710

On 9/5/2011 8:21 PM, Jeff Liebermann wrote:

> I've tried
> interrogating the owners and none claim that they did anything
> potentially destructive.

I have repaired many devices that "I didn't do anything to it - it just happened!"

- 73 de Mike N3LI -

2260. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 21:52:18 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j48p2f$gc70$1@tr22n12.aset.psu.edu>
Source record: 3711

On 9/7/2011 11:54 AM, Jeff Liebermann wrote:

> The plot thickens. I checked the accuracy of the MFJ-269 and is was
> off on the real part of anything it was measuring about +10%. A good
> 50 ohm load would read about 56 ohms. It didn't take long to find the
> culprit. Instead of 51.1 ohms (1%), R88 showed 54 ohms, while R85 and
> R86 read 52 ohms (or there about within the limits of my cheapo
> ohms-guesser). It therefore seems possible that the owner had
> transmitted into the instrument (even though he denies it).

Yeah, denial is de rigueur.

- 73 de Mike N3LI -

2261. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 21:56:13 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j48p9q$gc72$1@tr22n12.aset.psu.edu>
Source record: 3712

On 9/7/2011 2:43 PM, dave wrote:
> Jeff Liebermann wrote:
>
>> ohms-guesser). It therefore seems possible that the owner had
>> transmitted into the instrument (even though he denies it).
>
> Why would anyone connect that antenna analyzer to a transmitter (unless
> using the BNC?)

People do odd things. Some times it is noobs, sometimes someone connects the wrong cable and for some weird reason keys the transmitter, sometimes it is someone just not thinking.

I've seen too much stuff to not believe really crazy things don't happen.

- 73 de Mike N3LI -

2262. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 22:07:05 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j48pu5$q07q$1@tr22n12.aset.psu.edu>
Source record: 3713

On 9/6/2011 12:58 AM, Owen Duffy wrote:

> That is probably key, don't trust other people... and be pretty wary of
> one's self!
>
> It is interesting you mention the Other Persons thing... I am in the
> process of drafting a web article commenting on the advice that is so
> common these days on online fora, "can you borrow an analyser?..."

It is a good lesson, (be wary) and I think that MFJ makes another "analyzer", the 207, which will suit the average user just fine, as long as they are not needing V/UHF. It's cheap, simple, small, and I used one before I got into HF mobile. It doesn't show anything but SWR. Given that that is what most people are interested in, it suits well.

Then after a bit of reading, and talking they might start to look for the interesting details, and the instruments to measure those details.

- 73 de Mike N3LI -

2263. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-07 23:02:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F5A5BF887CDFnonenowhere@88.198.244.100>
Source record: 3714

Mike Coslo <mjc5@psu.edu> wrote in news:j48pu5$q07q$1@tr22n12.aset.psu.edu:

>
> Then after a bit of reading, and talking they might start to look for
> the interesting details, and the instruments to measure those details.

Absolutely, if acquiring an MFJ259B or the like is a stimulus to learn more of impedance, transmission lines and antennas, that is great.

Owen

2264. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 03:58:49 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <r0fg679f8qpsrfqgui7b905bvmb5olov75@4ax.com>
Source record: 3715

On 07 Sep 2011 18:43:40 GMT, dave <dave@dave.dave> wrote:

>Jeff Liebermann wrote:
>> ohms-guesser). It therefore seems possible that the owner had
>> transmitted into the instrument (even though he denies it).
>
>Why would anyone connect that antenna analyzer to a transmitter (unless
>using the BNC?)

Good question. I asked the same question when we discovered that the radio clubs Kenwood something HF transceiver had most of the components in the receiver front end vaporized or incinerated after a contest weekend. My best guess(tm) is that someone plugged one of the tangled mess of coax cables lurking behind the bench, into a live transmitter, thinking it was an antenna cable. Few of cables are labeled. Of course, nobody will admit to doing it.

My guess(tm) is that something like that happened with the MFJ.

Incidentally, in the box with the MFJ-269 was an N-male to UHF-female adapter, which brings back the possibility of an ESD discharge when the center pin was connected first.

--
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2265. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 04:29:24 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <2gfg679g746i2cei8ronv18166mkge4cu5@4ax.com>
Source record: 3716

On Wed, 07 Sep 2011 17:46:03 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>I have repaired many devices that "I didn't do anything to it - it just
>happened!"
> - 73 de Mike N3LI -

Well, an admission of guilt would certainly be handy. Before anything
can be repaired, a suitable culprit must be found or assigned. Nothing
can be repaired without first establishing the blame.

If the owner confesses to gross negligence, the repair can proceed
normally. However, if he refuses to accept the blame, someone else
must be found. That's often difficult as one should not blame the
person doing the repairs. It is sometimes convenient to loan the
instrument to a fellow ham, and then blame them for blowing it up. As
a last resort, inflicting inquisition style torture on the owner will
eventually extract a confession, although subsequently getting paid
for the repair might be difficult.

--
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2266. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 05:01:10 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <2fhg67di69dh6o4gnmjen1dkqimmkig5t7@4ax.com>
Source record: 3717

On Wed, 07 Sep 2011 10:48:55 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Actually, humidity doesn't affect the charging all that much. What
>humidity affects is the leakage current across dirty insulators.
>P-static is a nice example of static charging in rain at 100% humidity,
>for instance.
>
>It's true that dry dust or blowing snow are more notorious for charging,
>but just the clear sky current could provide some charging.

Well, what I've noticed is that when the humidity is low, I throw
lightning bolts when I walk across the carpet or slide across the car
seat. When the humidity is higher, then I don't have those problems.
I don't know how this correlates to charge buildup on an antenna, but
my guess(tm) is that there would be some connection.

>> Also, any antenna design, that
>> would fry an analyzer, might also fry a radio front end. It's
>> possible, but unlikely.
>
>I don't know about that. A LNA with a FET front end might be an example
>of a ESD sensitive thing, but for HF, where we're usually more concerned
>about instantaneous dynamic range and strong signal handling, a more
>robust front end is common. One of those +20dBm LO mixers, for
>instance, is going to be quite robust.

In a past life, I helped design a marine HF xceiver, which had a +7dBm
mixer (SBL-1) in the front end. Between the antenna and the mixer,
was a low pass filter with no capacitors to ground. There were a few
failures, most of which were due to nearby lightning hits. However
some of these failures were blamed on static buildup.

The higher level mixers will certainly survive a bigger blast through
the antenna. But that's because there's a torroidal isolation
transformer between the antenna and the diode ring. See typical
+23dBm mixer at:
<http://www.minicircuits.com/pdfs/RAY-1+.pdf>
Also note that the maximum RF power is 350mw, which is well within the
range of what can be delivered by a good solid ESD blast via the
antenna. I don't think it will fry the diodes, but might blow the
tiny wire used in the torroids into a fuse.

>I can think of a lot of antennas that won't be too hard on a radio front
>end that would cook a delicate detector diode hooked directly up to the
>antenna.

Ok. I'll admit that the MJF-269 diodes, which are directly connected
to the antenna terminal, are more easily fried than a receiver front
end, which has a mess of circuitry, and possibly an antenna coupler,
between the antenna and the front end.

>> I carry a neon lamp line tester in my tool box. It's useful for
>> checking AC power, but also for detecting high voltages on antenna
>> terminals. It's amazing what I find at broadcast sites.

>There's a whole literature on making neon lamp blinkers with an antenna
>and a ground.

These days, it's called "energy scavenging" or "RF energy harvesting".
<http://www.eweekeurope.co.uk/news/scavenging-free-green-power-from-radio-waves-35622>
I used to have a 4 watt fluorescent lamp on top of my mobile antenna
that flickered with the transmitted envelope.

--
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http://www.LearnByDestroying.com AE6KS

2267. Re: Isolating an active mobile phone using metal boxes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 05:04:18 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <l3jg6719423b4h4od9u1ovbv245a5dqkc9@4ax.com>
Source record: 3718

On Wed, 07 Sep 2011 22:18:59 +0800, Man-wai Chang
<toylet.toylet@gmail.com> wrote:

>I finally did it with 2 tin boxes. :)

One box for the cell phone and one box for you.
How do you work on the cell phone when you are in a seperate box?

--
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http://www.LearnByDestroying.com AE6KS

2268. Re: Isolating an active mobile phone using metal boxes

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 07:54:34 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <j49sbqhtq2@speranza.aioe.org>
Source record: 3719

On 08/09/2011 06:04, Jeff Liebermann wrote:
> On Wed, 07 Sep 2011 22:18:59 +0800, Man-wai Chang
> <toylet.toylet@gmail.com> wrote:
>
>> I finally did it with 2 tin boxes. :)
>
> One box for the cell phone and one box for you.
> How do you work on the cell phone when you are in a seperate box?
>

Depends on the size of the box of course!

Jeff

2269. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 17:20:02 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4atg2$vu0$1@news.jpl.nasa.gov>
Source record: 3720

On 9/7/2011 11:43 AM, dave wrote:
> Jeff Liebermann wrote:
>
>
>> ohms-guesser). It therefore seems possible that the owner had
>> transmitted into the instrument (even though he denies it).
>
> Why would anyone connect that antenna analyzer to a transmitter (unless
> using the BNC?)

Oh.. that's an easy mistake to make. Bunch of coax with connectors lying on the floor, hook up the wrong one. Hook a switch up incorrectly. Coax switch without enough isolation (100W transmitter with a 20dB isolation switch is a watt into the analyzer..)

Anyone who has never accidentally cooked a piece of test equipment just hasn't been working long enough.

2270. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 18:17:00 UTC
From: dplatt@radagast.org
Message-ID: <sddnj8-dk5.ln1@radagast.org>
Source record: 3721

In article <j4atg2$vu0$1@news.jpl.nasa.gov>,
Jim Lux <james.p.lux@jpl.nasa.gov> wrote:

>Anyone who has never accidentally cooked a piece of test equipment just
>hasn't been working long enough.

"Experience is directly proportional to equipment destroyed."

I think I blew up my first piece of test gear at the age of 14 or
so... tried to measure line voltage, with the VOM control still set on
"ohms". POP!

Fortunately it was just one resistor... I eventually replaced it, and
I still have that old 1000 ohm/volt VOM (a 1965-vintage Lafayette)
sitting in a drawer somewhere.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2271. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 18:26:38 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4b1cu$7m6$1@news.jpl.nasa.gov>
Source record: 3724

On 9/7/2011 11:47 AM, Richard Clark wrote:
> On Wed, 07 Sep 2011 10:48:55 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:
>
>> but just the clear sky current could provide some charging.
>
> There is a earth-sky current in the femtoamperes per cmï¿½ that has a
> constant potential gradient on the order of 600V/m (or something like
> that). This current is the return path for all lightning strike
> charge transfers, world-wide.

a few pA/sq meter and a kV/meter field is how I always remember it (in round numbers) It's small, that's true.

>
> Few dipoles are co-planar, parallel wrt ground.
>
>> Actually, humidity doesn't affect the charging all that much. What
>> humidity affects is the leakage current across dirty insulators.
>
> Which could easily overwhelm this femtoampere charge where a gigaOhm
> leakage is trivial (zealous Hams using teflon technology?).

Well.. Consider a 20 meter long wire hanging 10 meters above the ground (half a 80m dipole) so now you're talking tens of pA, 100 Meg isolation isn't hard to get with clean insulators. That 20 m wire is like a 850 pF capacitor. If assume, say, 25 pA charging current, you get a volt every 42 seconds. After half an hour or so, you're up to 40 volts or so..

Granted it's not a lot of Joules.. (heck, probably not even a microjoule)..

So fair weather charging isn't likely to kill your MFJ..

Back to the dust/rain/induction charging, which can certainly get the levels needed.

2272. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 18:29:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj6i251.rp1.gsm@cable.mendelson.com>
Source record: 3722

Dave Platt wrote:
>
> I think I blew up my first piece of test gear at the age of 14 or
> so... tried to measure line voltage, with the VOM control still set on
> "ohms". POP!
>
> Fortunately it was just one resistor... I eventually replaced it, and
> I still have that old 1000 ohm/volt VOM (a 1965-vintage Lafayette)
> sitting in a drawer somewhere.
>

Were you involved with THE pinball machine?

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2273. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 18:30:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4b1ki$7m6$2@news.jpl.nasa.gov>
Source record: 3725

On 9/7/2011 10:01 PM, Jeff Liebermann wrote:
> On Wed, 07 Sep 2011 10:48:55 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:
>
>> Actually, humidity doesn't affect the charging all that much. What
>> humidity affects is the leakage current across dirty insulators.
>> P-static is a nice example of static charging in rain at 100% humidity,
>> for instance.
>>
>> It's true that dry dust or blowing snow are more notorious for charging,
>> but just the clear sky current could provide some charging.
>
> Well, what I've noticed is that when the humidity is low, I throw
> lightning bolts when I walk across the carpet or slide across the car
> seat. When the humidity is higher, then I don't have those problems.
> I don't know how this correlates to charge buildup on an antenna, but
> my guess(tm) is that there would be some connection.
>

It has to do with the leakage currents discharging you when it's more
humid. Interestingly, humid air has a higher breakdown field than dry air.

> In a past life, I helped design a marine HF xceiver, which had a +7dBm
> mixer (SBL-1) in the front end. Between the antenna and the mixer,
> was a low pass filter with no capacitors to ground. There were a few
> failures, most of which were due to nearby lightning hits. However
> some of these failures were blamed on static buildup.

And, you can take ESD hits that degrade, but don't destroy, the part.
I've got some LNAs in my desk drawer that appear to work just fine,
except the NF is a bit higher than it used to be.

>

2274. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 18:56:03 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j4b35fprn1@dont-email.me>
Source record: 3723

On 9/8/2011 1:17 PM, Dave Platt wrote:
> In article<j4atg2$vu0$1@news.jpl.nasa.gov>,
> Jim Lux<james.p.lux@jpl.nasa.gov> wrote:
>
>> Anyone who has never accidentally cooked a piece of test equipment just
>> hasn't been working long enough.
>
> "Experience is directly proportional to equipment destroyed."
>
> I think I blew up my first piece of test gear at the age of 14 or
> so... tried to measure line voltage, with the VOM control still set on
> "ohms". POP!
>
> Fortunately it was just one resistor... I eventually replaced it, and
> I still have that old 1000 ohm/volt VOM (a 1965-vintage Lafayette)
> sitting in a drawer somewhere.
>

So, you only did it *once* in all this time? Every few years I do the
same thing, except the fuse catches my error.

John KD5YI

2275. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 19:12:20 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j4b440prn2@dont-email.me>
Source record: 3726

On 9/8/2011 1:30 PM, Jim Lux wrote:
>
> And, you can take ESD hits that degrade, but don't destroy, the part.
> I've got some LNAs in my desk drawer that appear to work just fine,
> except the NF is a bit higher than it used to be.

How do you know it was ESD that caused the degradation?

2276. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 19:24:39 UTC
From: dplatt@radagast.org
Message-ID: <nchnj8-4nb.ln1@radagast.org>
Source record: 3728

In article <j4b1cu$7m6$1@news.jpl.nasa.gov>,
Jim Lux <james.p.lux@jpl.nasa.gov> wrote:

>Well.. Consider a 20 meter long wire hanging 10 meters above the
>ground (half a 80m dipole) so now you're talking tens of pA, 100 Meg
>isolation isn't hard to get with clean insulators. That 20 m wire is
>like a 850 pF capacitor. If assume, say, 25 pA charging current, you
>get a volt every 42 seconds. After half an hour or so, you're up to 40
>volts or so..
>
>Granted it's not a lot of Joules.. (heck, probably not even a microjoule)..
>
>So fair weather charging isn't likely to kill your MFJ..
>
>Back to the dust/rain/induction charging, which can certainly get the
>levels needed.

I've observed clear-air charge on a TV antenna (about 30' above ground
level) which was sufficient to create a visible spark when I touched
the center connector of the coax to a grounded static-drain block.

No rain at the time, no appreciable amount of dust (SF Bay area)...
just clear air with a mild breeze.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2277. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 19:26:46 UTC
From: dplatt@radagast.org
Message-ID: <mghnj8-4nb.ln1@radagast.org>
Source record: 3729

In article <slrnj6i251.rp1.gsm@cable.mendelson.com>,
Geoffrey S. Mendelson <gsm@mendelson.com> wrote:

>> Fortunately it was just one resistor... I eventually replaced it, and
>> I still have that old 1000 ohm/volt VOM (a 1965-vintage Lafayette)
>> sitting in a drawer somewhere.
>>
>
>Were you involved with THE pinball machine?

#laughing out loud#

Geoff, you're one of only four people alive today (I think) who would
remember that particular incident.

Yeah, I was the guy hidden under the bed with the remote-control box
for the "voice operated" flippers.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2278. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 19:27:39 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3i5i67llet2ksu9l8lacm5sdgjrc2ete50@4ax.com>
Source record: 3727

On Thu, 08 Sep 2011 14:12:20 -0500, John S <sophi.2@invalid.org>
wrote:

>On 9/8/2011 1:30 PM, Jim Lux wrote:
>>
>> And, you can take ESD hits that degrade, but don't destroy, the part.
>> I've got some LNAs in my desk drawer that appear to work just fine,
>> except the NF is a bit higher than it used to be.

>How do you know it was ESD that caused the degradation?

"How often have I said to you that when you have eliminated the
impossible, whatever remains, however improbable, must be the truth?"
Sir Arthur Conan Doyle, The Sign of the Four, chap. 6.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2279. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 19:29:06 UTC
From: dplatt@radagast.org
Message-ID: <2lhnj8-4nb.ln1@radagast.org>
Source record: 3730

In article <j4b35fprn1@dont-email.me>, John S <sophi.2@invalid.org> wrote:

>> I think I blew up my first piece of test gear at the age of 14 or
>> so... tried to measure line voltage, with the VOM control still set on
>> "ohms". POP!
>>
>> Fortunately it was just one resistor... I eventually replaced it, and
>> I still have that old 1000 ohm/volt VOM (a 1965-vintage Lafayette)
>> sitting in a drawer somewhere.
>>
>
>So, you only did it *once* in all this time? Every few years I do the
>same thing, except the fuse catches my error.

Oh, no, by no means - that was just my *first* time.

As in your case, the fuses tend to save most of my VOM/DVM foulups
these days. Reminds me, I've gotta go grab some 250 mA mini-fuses to
fix one of my meters and restock my oops box.

To paraphrase Foghorn Leghorn, "Fortunately, I always keep a spare set of
feathers in my locker, for just such an occasion."

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2280. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 19:35:28 UTC
From: n1ald <cybrinjn@gmail.com>
Message-ID: <ae4946c3-4e2a-46a5-a700-089dab4e3eb4@glegroupsg2000goo.googlegroups.com>
Source record: 3731

Why not just download HRD http://www.ham-radio-deluxe.com/ for free?

2281. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 19:36:05 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <aq5i67ljetg6c2q25eg7p3hktfustohjc5@4ax.com>
Source record: 3732

On Thu, 8 Sep 2011 11:17:00 -0700, dplatt@radagast.org (Dave Platt)
wrote:

>"Experience is directly proportional to equipment destroyed."

"Learn By Destroying(tm)".
"You don't understand it until after you've repaired it."
"Fire and smoke are good indicators of a major screwup".

Sitting on my messy workbench are two almost identical and unlabeled
coax cables ending in N connectors with BNC adapters attached. One
goes to a militarized dummy load and power guesser. The other goes to
the output of my HP8656A signal generator. It took about 5 years, but
I finally got them mixed up and plugged a transmitter into the
generator. Fortunately, either the HP8656A apparently has some manner
of idiot protection inside, or I was simply lucky, as it survived my
stupidity.
<http://802.11junk.com/jeffl/pics/home/slides/BL-shop6.html>
Maybe if I clean up the mess...

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2282. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 20:34:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj6i9j0.4o2.gsm@cable.mendelson.com>
Source record: 3733

Dave Platt wrote:

> #laughing out loud#
>
> Geoff, you're one of only four people alive today (I think) who would
> remember that particular incident.
>
> Yeah, I was the guy hidden under the bed with the remote-control box
> for the "voice operated" flippers.
>

I thought so. :-)

For those that weren't there (almost the entire world), Dave and I grew up in Philly and had mutual friends.

It must of been either the summer of '70 or '71, someone gave me a huge spool of teflon coated #20 copper wire (worth a fortune but we did not know that) and someone else gave me a working pinball machine.

They both ended up in another friend's bedroom and with a box, some switches and push bottons, we ended up with the world's first and possibly only voice accuated pinball machine.

The reality of it all was Dave was under a bed next to the machine, pushing buttons and flipping switches.

I remember one "mark" who would not believe that it wasn't real, even when we moved the bed, Dave popped out and showed him the box. :-)

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2283. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 21:18:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4bbfopku1@news.jpl.nasa.gov>
Source record: 3734

On 9/8/2011 12:27 PM, Jeff Liebermann wrote:
> On Thu, 08 Sep 2011 14:12:20 -0500, John S<sophi.2@invalid.org>
> wrote:
>
>> On 9/8/2011 1:30 PM, Jim Lux wrote:
>>>
>>> And, you can take ESD hits that degrade, but don't destroy, the part.
>>> I've got some LNAs in my desk drawer that appear to work just fine,
>>> except the NF is a bit higher than it used to be.
>
>> How do you know it was ESD that caused the degradation?
>

Oh.. I don't know on the ones in the drawer that's what did it (because they still work, after a fashion), but on some other ones where we did failure analysis, you can see the damage on the SEM photos.

We've got whole books full of pictures of this kind of thing.

That's partly why industry has gone from marking just sensitive things to marking everything ESD, including nuts and bolts. It's just too easy to get damage without any obvious signs. Consistent practices reduce the possibility, which increases yield. The concern is the "weakening" or "partial damage without causing outright failure" kind of scenario, especially in a hi-rel situation.

There's a lot of interest in figuring out a way to test for this kind of thing, as you can imagine.

And there's even evidence that the damage can heal (anneal), much like radiation damage (both are basically deposition of energy in the wrong place and the wrong time, right), but the mechanics of the process is poorly understood.

http://www.fainstruments.com/PDF/eosesd93.pdf
http://eed.gsfc.nasa.gov/562/ESD_Failures.htm
http://trs-new.jpl.nasa.gov/dspace/bitstream/2014/15629/1/00-1338.pdf

2284. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 21:38:05 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4bcjtrks1@news.jpl.nasa.gov>
Source record: 3735

On 9/8/2011 12:24 PM, Dave Platt wrote:
> In article<j4b1cu$7m6$1@news.jpl.nasa.gov>,
> Jim Lux<james.p.lux@jpl.nasa.gov> wrote:
>
>> Well.. Consider a 20 meter long wire hanging 10 meters above the
>> ground (half a 80m dipole) so now you're talking tens of pA, 100 Meg
>> isolation isn't hard to get with clean insulators. That 20 m wire is
>> like a 850 pF capacitor. If assume, say, 25 pA charging current, you
>> get a volt every 42 seconds. After half an hour or so, you're up to 40
>> volts or so..
>>
>> Granted it's not a lot of Joules.. (heck, probably not even a microjoule)..
>>
>> So fair weather charging isn't likely to kill your MFJ..
>>
>> Back to the dust/rain/induction charging, which can certainly get the
>> levels needed.
>
> I've observed clear-air charge on a TV antenna (about 30' above ground
> level) which was sufficient to create a visible spark when I touched
> the center connector of the coax to a grounded static-drain block.
>
> No rain at the time, no appreciable amount of dust (SF Bay area)...
> just clear air with a mild breeze.
>

There could actually be a fair amount of particulates without you being aware of it. I used to work for a company that made things that created fine particles in air and we tried to remove the particles as well (often using electrostatic techniques).

For very small particles, they don't scatter the light very well so you don't see them. Ultimately, you get small enough: molecule sized and you get blue sky, but even fairly large particles (on the order of a wavelength of light in size) are basically invisible as such, but do increase the attenuation, and do scatter some light so you get decreasing visual contrast at long distances (called atmospheric perspective in the computer graphics biz) One way that cinematographers can make a room seem bigger is by putting a very small amount of haze into the room, because that makes distant things less contrasty, which your brain turns into "farther away".

Some numbers:

At 1 mg/cubic meter of 1 micron diameter particles, you won't see any noticeable haziness. That's about 2E15 particles per cubic meter, and each one can have a max charge of about 1E-13 coulomb. So you can potentially move 200 coulombs with a cubic meter of air. That gentle zephyr blowing by at 1 m/sec can move a lot of cubic meters in a fairly short time. Say you have a 1cm diameter antenna element.. it will intercept 0.01 cubic meters/sec of that breeze.. 2 Coulombs/sec -> 2 Amperes...

In reality, of course, the particles won't have that much charge (they'll repel each other, for one thing), and not all of the particles will touch your antenna, especially once it starts to charge, and so forth. When I was working with a Vollrath Electrostatic Charging scheme (like a Van de Graaff generator using dust instead of a belt) the best kind of charging current I got was 10-100 microamps with dust flowing in a 4" diameter pipe at several meters/sec.

But, the real thing is that you can get particulate charging in what seems to be perfectly clear air.

Compressed air system run into this kind of thing... you can have fine oil particles from the compressor, or condensed water particles from a sudden expansion of the compressed air, both of which might be invisible, but which can build up a surprising charge.

2285. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 23:12:03 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j4bi5f$4b2$1@dont-email.me>
Source record: 3736

On 9/8/2011 4:18 PM, Jim Lux wrote:
> On 9/8/2011 12:27 PM, Jeff Liebermann wrote:
>> On Thu, 08 Sep 2011 14:12:20 -0500, John S<sophi.2@invalid.org>
>> wrote:
>>
>>> On 9/8/2011 1:30 PM, Jim Lux wrote:
>>>>
>>>> And, you can take ESD hits that degrade, but don't destroy, the part.
>>>> I've got some LNAs in my desk drawer that appear to work just fine,
>>>> except the NF is a bit higher than it used to be.
>>
>>> How do you know it was ESD that caused the degradation?
>>
>
> Oh.. I don't know on the ones in the drawer that's what did it (because
> they still work, after a fashion)

That's the reason I asked. Thank you.

2286. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-08 23:45:06 UTC
From: Flash <dont@email.com>
Message-ID: <lgki6757so6g4b361lnimm7150gl0c4v1l@4ax.com>
Source record: 3737

On Thu, 8 Sep 2011 12:35:28 -0700 (PDT), n1ald <cybrinjn@gmail.com> wrote:

>Why not just download HRD http://www.ham-radio-deluxe.com/ for free?

I thought HRD only controlled certain radios that actually had to be connected to the host computer via a series or USB port? Or is the ability to go to other web sites and stream audio from them some undocumented feature I missed? I'll have to check that out? Thanks.

2287. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 00:14:04 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4bloc$c5g$1@news.jpl.nasa.gov>
Source record: 3738

On 9/8/2011 4:12 PM, John S wrote:
> On 9/8/2011 4:18 PM, Jim Lux wrote:
>> On 9/8/2011 12:27 PM, Jeff Liebermann wrote:
>>> On Thu, 08 Sep 2011 14:12:20 -0500, John S<sophi.2@invalid.org>
>>> wrote:
>>>
>>>> On 9/8/2011 1:30 PM, Jim Lux wrote:
>>>>>
>>>>> And, you can take ESD hits that degrade, but don't destroy, the part.
>>>>> I've got some LNAs in my desk drawer that appear to work just fine,
>>>>> except the NF is a bit higher than it used to be.
>>>
>>>> How do you know it was ESD that caused the degradation?
>>>
>>
>> Oh.. I don't know on the ones in the drawer that's what did it (because
>> they still work, after a fashion)
>
> That's the reason I asked. Thank you.
>
>
Yeah.. the guy or gal who figures out a good non-destructive, no
disassembly required way to detect latent ESD damage is going to be a
hero for those of us building one-off high-rel gear. There have been
some partial solutions for specific parts, but no generalized way, yet.

2288. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 02:40:37 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <77ui67d83okku0lsctdtk3pupgt81suqrg@4ax.com>
Source record: 3739

On Wed, 31 Aug 2011 09:38:51 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>One wonders why someone isn't pushing for a digital TDMA scheme for
>amateurs.

That's easy. Because there's no emission designator for FCC approved
TDMA mobile/HT for ham radio. The ARRL is working on the problem.
<http://www.arrl.org/news/arrl-files-em-petition-em-em-request-for-temporary-waiver-em-wit
h-fcc-regarding-vhf-voice-and-data-e>
Multiple time slot systems, such as DStar are currently approved. This
is nothing new. Just approval for P25 radios.

>You could build a very nice full duplex repeater on a single
>frequency that way.

Yes, except that the ARRL has decided to only petition for a waver for
single time slot TDMA, which can't be used for a repeater.

You're scheme would certainly work, and I too am wondering why nobody
has bothered to do it. Possibly because nobody really wants full
duplex (with echo, reverb, feedback, etc).

>Sure it's totally incompatible with current FM
>repeaters, but then, D-star isn't totally compatible either. D-star and
>it's ilk are sort of half measures in that sense.

Dstar duz 5 independent simultaneous conversations through the
repeater. That's not what I would call a half measure.

>No filtering, much less intermod issues in multi station at onee site
>systems... all kinds of good comes of it.

Yep.

>Digital schemes on HF to replace SSB I can see having real trouble (the
>biggest is the lack of a "party line" capability, the other is the long
>propagation delay on HF paths), but on VHF and up FM, you already have a
>"one person talks at a time" by virtue of the standard FM demodulator.

Yep. We did that with Amtor (Sitor) for data. The big problem was
getting the switching time between T/R to less than the prop delay. If
you increase the time slicing to where it could handle voice (about
200Hz) but not be audible, the occupied bandwidth increases
unacceptably wide for HF. It's possible to decrease the switching
time, but then the latency (delay) increases to unacceptable levels. I
don't think anyone really wants a repeater with a 1 second audio delay
(even though they exist).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2289. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 04:05:14 UTC
From: Noskosteve <noskosteve@gmail.com>
Message-ID: <e910af42-046d-482f-aca2-4249c6f015fb@j19g2000yqc.googlegroups.com>
Source record: 3740

On Aug 28, 3:09 pm, Helmut Wabnig <hwabnig@.- --- -.dotat> wrote:
> (repost updated)
> All started because I could not get the PVC tubing which the many
> internet sites propose. ...
> Regards, w.

While not adding to your solution I saw this posting and had to put in
a plug for my simplification.

I made a simplification to Joe's beam and want to let others know.

Instead of paying for those hose clamps, I simply use a short piece
of the tubing to hold the tape. It takes a little Dremel grinding to
remove the step inside, but makes a nice, clean design with the hair-
pin match inside.

Photos and videos on my site:

Photos:
http://k9dci.home.comcast.net/site/?/photos/

Videos:
http://k9dci.home.comcast.net/site/?/page/Amateur_Radio_Control/

--
73, Steve, K9DCI USN (Vet) MOT (Ret) Ham (Yet)

More Details, Features and Downloads at:
http://k9dci.home.comcast.net/

2290. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 04:39:45 UTC
From: Noskosteve <noskosteve@gmail.com>
Message-ID: <076a1aea-ba82-48b6-9060-dc04ef0a5e1b@cd4g2000vbb.googlegroups.com>
Source record: 3741

On Aug 30, 11:17 am, Richard Clark <kb7...@comcast.net> wrote that :
> On Tue, 30 Aug 2011 09:03:33 +0200, Helmut Wabnig <hwabnig@.- --- wrote:
> >I wonder how important matching is for a pure
> >direction finding antenna, methinks rather it should not.
>
> You are right, not at all. ...
> 73's Richard Clark, KB7QHC

Matching, perhaps not so much, HOWEVER, the antenna pattern/phase/
characteristics are *THE* most important aspect of a DF antenna/
system. The DF antenna characteristics must be as close to ideal as
possible. I've been involved in DF since my stint in the Navy and they
went to great lengths to get the antenna sites ideal, for that reason.
Also...

But why I re-posted.... Thanks to Richard's post...
I forgot to mention a bead choke that I used with success on one of
these beams.
They also significantly improved the performance of a four dipole
Doppler type DF antenna
that one of the locals had and knew it was not right, but couldn't
decide what to do to fix it..

We used two cores on the coax to get well above the coax 50 ohms.

The following cores will fit inside the PVC pipe and around RG-58 size
coax.

Mouser: 623-2643540002
Fair-Rite (Mfr) # 2643540002
O.D. 0.562"
I.D. 0.25"
Len. 1.125
250 ohms @ 100MHz. [specs. I did not measure them as I recall]
171 ohms @ 25 MHz.

Finally,

Helmut,
You have quite a bit of reading there with that sliding element.
Can't wait to dig into it.

73, Steve, K9DCI Haven't read this group in ages.

2291. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 05:05:11 UTC
From: Noskosteve <noskosteve@gmail.com>
Message-ID: <f9b1fc8d-382a-4805-acf8-90e5f88bae36@n11g2000yqh.googlegroups.com>
Source record: 3742

On Aug 31, 11:38 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> One wonders why someone isn't pushing for a digital TDMA scheme for
> amateurs. You could build a very nice full duplex repeater on a single
> frequency that way. ...
>
> No filtering, much less intermod issues in multi station at onee site
> systems... all kinds of good comes of it.
>
> Digital schemes on HF to replace SSB I can see having real trouble (the
> biggest is the lack of a "party line" capability, the other is the long
> propagation delay on HF paths), but on VHF and up FM, you already have a
> "one person talks at a time" by virtue of the standard FM demodulator.

Uhhh. It's been a long time since I worked on such a system (1975 I
think),
but IIR the prop delay through space for moderate distances kills the
idea.
Rough calculations gives a round trip delay, at 10 miles from the
repeater,
of about 0.1 ms. For two stations at that distance that's 0.1 ms not
available for sampling, bit width and processing. Keeping the BW down
also needs
rise and fall time as well as guard times. It added up quiclky back
then.
The vocoder becomes very important to reduce the data rate.

Hope I got that right...
73, Steve, K9DCI

2292. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 05:43:26 UTC
From: dplatt@radagast.org
Message-ID: <ukloj8-fts.ln1@radagast.org>
Source record: 3743

>>You could build a very nice full duplex repeater on a single
>>frequency that way.
>
>Yes, except that the ARRL has decided to only petition for a waver for
>single time slot TDMA, which can't be used for a repeater.
>
>You're scheme would certainly work, and I too am wondering why nobody
>has bothered to do it. Possibly because nobody really wants full
>duplex (with echo, reverb, feedback, etc).

I wonder whether you may not also have to be really careful with your transceiver/receiver switching design. You'll really need to be able to trust (and drive) those PIN diodes properly... goof up on even a single time-slice and you could put enough TX power into your receiver to turn its front end into a pile of smouldering char in a millisecond.

This isn't a problem with normal split-frequency repeaters, thanks to the isolation in the duplexer cans.

Do any of the commercial TDMA systems use the same frequencies for base->mobile and mobile->base? My recollection is that TDMA cellphone systems operate with split uplink/downlink frequencies.

>>No filtering, much less intermod issues in multi station at onee site
>>systems... all kinds of good comes of it.
>
>Yep.

But "no filtering" comes with its own set of concerns.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2293. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 06:04:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj6japc.dhu.gsm@cable.mendelson.com>
Source record: 3744

Noskosteve wrote:

> Uhhh. It's been a long time since I worked on such a system (1975 I
> think),
> but IIR the prop delay through space for moderate distances kills the
> idea.

That was 1975. The only people who ever were exposed to any propigation delay where those rich enough to make a long distance call that was routed over satellite. If I remember correctly it was about $5 a minute to call New York from L.A.

This is 2011, everyone is used the the propigation delay of digital telephones, and VoIP. 150ms is tollerable.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2294. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 07:54:02 UTC
From: "Helmut Wabnig"
Message-ID: <achj67dgdfj5k29a7cnlhkeoqd3dbmghl7@4ax.com>
Source record: 3745

On Thu, 8 Sep 2011 21:05:14 -0700 (PDT), Noskosteve
<noskosteve@gmail.com> wrote:

>On Aug 28, 3:09ï¿½pm, Helmut Wabnig <hwabnig@.- --- -.dotat> wrote:
>> (repost updated)
>> All started because I could not get the PVC tubing which the many
>> internet sites propose. ...
>> Regards, w.
>
>While not adding to your solution I saw this posting and had to put in
>a plug for my simplification.
>
>I made a simplification to Joe's beam and want to let others know.
>
> Instead of paying for those hose clamps, I simply use a short piece
>of the tubing to hold the tape. It takes a little Dremel grinding to
>remove the step inside, but makes a nice, clean design with the hair-
>pin match inside.
>
>Photos and videos on my site:
>
>Photos:
>http://k9dci.home.comcast.net/site/?/photos/
>
>Videos:
>http://k9dci.home.comcast.net/site/?/page/Amateur_Radio_Control/

Looks good.

I always wonder from where you people get the PVC tubes.
My local construction markets don't.

Since you have it, can you try to make the center elements movable,
this should work with the PVC tubes also.

w.

2295. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 12:56:18 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6a0cf2$0$5516$bd467cd0@news.dslextreme.com>
Source record: 3746

n1ald wrote:

> Why not just download HRD http://www.ham-radio-deluxe.com/ for free?

You actually need a real radio?

The $40 program provides an SWL GUI for the same functionality as
Icecast or iTunes radio, etc.

2296. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 12:57:17 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6a0d2c$0$5535$bd467cd0@news.dslextreme.com>
Source record: 3747

Flash wrote:

> On Thu, 8 Sep 2011 12:35:28 -0700 (PDT), n1ald <cybrinjn@gmail.com> wrote:
>
>>Why not just download HRD http://www.ham-radio-deluxe.com/ for free?
>
> I thought HRD only controlled certain radios that actually had to be connected
> to the host computer via a series or USB port? Or is the ability to go to other
> web sites and stream audio from them some undocumented feature I missed? I'll
> have to check that out? Thanks.

Shoutcast

2297. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 13:01:23 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6a0e23$0$5535$bd467cd0@news.dslextreme.com>
Source record: 3748

Geoffrey S. Mendelson wrote:

> Noskosteve wrote:
>
>> Uhhh. It's been a long time since I worked on such a system (1975 I
>> think),
>> but IIR the prop delay through space for moderate distances kills the
>> idea.
>
> That was 1975. The only people who ever were exposed to any propigation delay
> where those rich enough to make a long distance call that was routed over
> satellite. If I remember correctly it was about $5 a minute to call New York
> from L.A.
>
> This is 2011, everyone is used the the propigation delay of digital telephones,
> and VoIP. 150ms is tollerable.
>
> Geoff.
>

For you, perhaps. I have a mild learning disability and I can't use the
phone if there's too much hesi.....tation. I have a twisted pair
that connects directly to an EOC at the push of a button. SMS works
great for me.

What's really funny is "music on hold" via mobile voice circuit.

2298. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 13:03:15 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6a0e93$0$5510$bd467cd0@news.dslextreme.com>
Source record: 3749

Dave Platt wrote:

> In article <j4b1cu$7m6$1@news.jpl.nasa.gov>,
> Jim Lux <james.p.lux@jpl.nasa.gov> wrote:
>
>>Well.. Consider a 20 meter long wire hanging 10 meters above the
>>ground (half a 80m dipole) so now you're talking tens of pA, 100 Meg
>>isolation isn't hard to get with clean insulators. That 20 m wire is
>>like a 850 pF capacitor. If assume, say, 25 pA charging current, you
>>get a volt every 42 seconds. After half an hour or so, you're up to 40
>>volts or so..
>>
>>Granted it's not a lot of Joules.. (heck, probably not even a microjoule)..
>>
>>So fair weather charging isn't likely to kill your MFJ..
>>
>>Back to the dust/rain/induction charging, which can certainly get the
>>levels needed.
>
> I've observed clear-air charge on a TV antenna (about 30' above ground
> level) which was sufficient to create a visible spark when I touched
> the center connector of the coax to a grounded static-drain block.
>
> No rain at the time, no appreciable amount of dust (SF Bay area)...
> just clear air with a mild breeze.
>

Were there any elevators nearby?

2299. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 13:12:05 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6a10a4$0$5521$bd467cd0@news.dslextreme.com>
Source record: 3750

Jim Lux wrote:

> On 9/7/2011 11:43 AM, dave wrote:
>> Jeff Liebermann wrote:
>>
>>
>>> ohms-guesser). It therefore seems possible that the owner had
>>> transmitted into the instrument (even though he denies it).
>>
>> Why would anyone connect that antenna analyzer to a transmitter (unless
>> using the BNC?)
>
> Oh.. that's an easy mistake to make. Bunch of coax with connectors
> lying on the floor, hook up the wrong one. Hook a switch up
> incorrectly. Coax switch without enough isolation (100W transmitter with
> a 20dB isolation switch is a watt into the analyzer..)
>
> Anyone who has never accidentally cooked a piece of test equipment just
> hasn't been working long enough.

I remember frying a scope once measuring audio from a distant studio
that was on the opposite mains leg. It was a 50 cents a pound government
surplus scope, not my 465.

I would never leave an unterminated transmission line connected to my
transmitter. You always want 50 Ohms on that line when connected to
your XMTR.

I also would never "guess", (which is a kind of "assume"), unless I
really had to. I know I learned this the hard way.

2300. MicroDEM

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 14:46:46 UTC
From: Bill Ogden <billogden@optonline.net>
Message-ID: <4e6a26ce$0$4382$607ed4bc@cv.net>
Source record: 3751

I am trying to use HFTA (from the 20th Edition Antenna Book) and am a little confused in the MicroDEM stage. I downloaded two DEM.gz files and placed them in C:\mapdata\DEMs\xxxxx.gz and yyyyy.gz. (I need two files because I am located near a boundary.) Should these gz files be expanded before using? How?

The MicroDEM setup instructions (page 31) say to click on the "Weapons fan" icon. I do not see this icon on the MICRODEM 7.0 window. Also, at this point, should I be seeing a map?

I am a little confused about the next step.

Bill
W2WO

2301. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 18:00:07 UTC
From: Francis
Message-ID: <8sjk679kcgk3ccl8lec295k9ckcsch9ih4@4ax.com>
Source record: 3752

On 09 Sep 2011 12:56:18 GMT, dave <dave@dave.dave> wrote:

>n1ald wrote:
>
>> Why not just download HRD http://www.ham-radio-deluxe.com/ for free?
>
>You actually need a real radio?

Uh, yeah. Maybe you would benefit from a visit to the HRD web site at the link above. It's a control program for Amateur Radios with computer control capabilities. It's a great program with a lot of functionality. Just check out the site, really. That should make things clear to you.

2302. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 19:07:27 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <16nk671105bvaustqf7b8s40bmjgrpreu4@4ax.com>
Source record: 3753

On Thu, 8 Sep 2011 22:43:26 -0700, dplatt@radagast.org (Dave Platt)
wrote:

>>>You could build a very nice full duplex repeater on a single
>>>frequency that way.
>>
>>Yes, except that the ARRL has decided to only petition for a waver for
>>single time slot TDMA, which can't be used for a repeater.
>>
>>You're scheme would certainly work, and I too am wondering why nobody
>>has bothered to do it. Possibly because nobody really wants full
>>duplex (with echo, reverb, feedback, etc).

>I wonder whether you may not also have to be really careful with your
>transceiver/receiver switching design. You'll really need to be able
>to trust (and drive) those PIN diodes properly... goof up on even a
>single time-slice and you could put enough TX power into your receiver
>to turn its front end into a pile of smouldering char in a millisecond.

Been there, blown up enough diodes to make me want to go back to
relays. However, that was about 1975, when AMTOR and SITOR were the
next big thing. High speed reliable RTTY at umm.... 3 characters per
second.
<http://en.wikipedia.org/wiki/SITOR>
At the time, everyone was trying to do SITOR-FEC and ARQ mode using
existing HF radios, including my employer, Intech. Few of our radios
were really very good at fast TX/RX switching. The basic spec was
that it had to be less than the flight time from West to East coast.
Speed-o-light is 186,000 miles per second, or 186 miles per
millisecond, or 16msec from coast to coast. That actual turn-around
spec was something like 35msec as I vaguely recall. I was thrilled
that the synthesizer PLL would settle down in maybe 25msec, and the
T/R relay in maybe 20msec. Suffice to say that some major reword was
required to get the timing correct, during which I sacrificed my share
of fried PIN diodes. Then, we dragged it out for a field test
(parking lot test), and found that the high Q antenna coupler stored
just enough energy to vaporize an ocassional PIN diode. I got fed up
with expensive Unitrode PIN diodes and substituted cheap 1N4007 power
diodes, which were far more rugged, and lived with the slight increase
in loss.

>This isn't a problem with normal split-frequency repeaters, thanks to
>the isolation in the duplexer cans.

True. However, expensive duplexers are a problem with the very narrow
TX/RX frequency offset found on 2m, 6m, and 10m repeaters. It's

fairly easy on 440 and 1215Mhz repeaters, which have wider offsets.

>Do any of the commercial TDMA systems use the same frequencies for
>base->mobile and mobile->base? My recollection is that TDMA cellphone
>systems operate with split uplink/downlink frequencies.

TDMA is IS-54/136, which is always on split frequencies. There was an HF system in Africa that I worked on in about 1979, that used single slot audio compression, and a single channel. It's idea of time slicing was trivial with a 50% duty cycle, and one cycle every 128 stolen for control. Absolutely nothing was standardized, but was very suitable for use on HF. I suppose it would be easy enough to take one of the HF digital encoders, add a synchronous t/r switch, and you have a workable start. I think this is close, but without full duplex: <http://www.aorusa.com/others/ard9800.html>

>But "no filtering" comes with its own set of concerns.

Yep. If the repeater is going in any of the buildings where I have equipement, it will need a cavity and ferrite isolator to prevent intermod problems. I know of one building that demands Heliax, no braided coax including LMR-xxx coax, all silver plated connectors, and other draconian anti-intermod measures. Tempest like packaging on all computahs. All I can say is that it works (if you can afford it).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2303. Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 19:10:08 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6a645f$0$15672$4fafbaef@reader2.news.tin.it>
Source record: 3754

For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a fairly big HF yagi on its top). The home-made tuner, placed at the tower base, has a motorized variable vacuum capacitor in series and a (properly selected) fixed capacitor in parallel. I can so remotely tune the variable capacitor across the 3500 - 3800 kHz range obtaining a perfect match to 50-ohm everywhere in the band. The antenna works fine and I receive good reports.

The only thing which worries me a bit is the very high voltage that develops at the antenna end (about 6,900 Vrms at 3.500 MHz with 2kW applied, growing to about 8,600 Vrms at 3.800 MHz). I am not sure whether such high voltage could be a source of significant losses.

To solve my doubt, I started by precisely measuring the capacitance of the tuner capacitors, and I could then easily calculate the antenna impedance at 3.500 MHz, which resulted to be (18.2 + j 656) ohm.

ABOUT CURRENT
With 2 kW applied, one can easily determine that the RF current flowing through the antenna is about 10.5A, quite higher than the 6.3A figure one would get should the antenna resistance be 50 ohm instead of 18.2 ohm. So, I must expect some more loss in the conductors due to the fairly high current.

ABOUT VOLTAGE
The 10.5 A current flowing through the big 656 ohm antenna reactance causes the antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz. Touching the wire with a (well insulated) screwdriver, you would see a nice Tesla-like arc. I am wondering whether such a high voltage could constitute, by itself, a source of extra loss. Please note that the wire coming down from the tower is connected directly to the vacuum capacitor terminal, with no stand-off insulator. So, I do not see a place where power can get dissipated due to the high RFvoltage, other than perhaps in the humid air (?).

I could probably avoid this situation by changing the tap height on the tower, but I would run the risk of not being any longer able to tune across the whole 3500 - 3800 kHz band adjusting one of the two capacitors, and not both.

Any idea on whether the high RF voltage present on the antenna could cause some significant loss?

Thanks and 73

Tony I0JX
Rome, Italy

2304. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 19:47:37 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6a6d58$0$5487$bd467cd0@news.dslextreme.com>
Source record: 3755

Francis wrote:

> On 09 Sep 2011 12:56:18 GMT, dave <dave@dave.dave> wrote:
>
>>n1ald wrote:
>>
>>> Why not just download HRD http://www.ham-radio-deluxe.com/ for free?
>>
>>You actually need a real radio?
>
> Uh, yeah. Maybe you would benefit from a visit to the HRD web site at the link
> above. It's a control program for Amateur Radios with computer control
> capabilities. It's a great program with a lot of functionality. Just check out
> the site, really. That should make things clear to you.

I think you need Windows.

2305. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 19:50:43 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6a6e12$0$5487$bd467cd0@news.dslextreme.com>
Source record: 3756

Jeff Liebermann wrote:

>
> Yep. If the repeater is going in any of the buildings where I have
> equipement, it will need a cavity and ferrite isolator to prevent
> intermod problems. I know of one building that demands Heliax, no
> braided coax including LMR-xxx coax, all silver plated connectors, and
> other draconian anti-intermod measures. Tempest like packaging on all
> computahs. All I can say is that it works (if you can afford it).
>
>
I've never seen that anywhere. Intermod is a math problem. No amount of
silver plating will fix bad coordination.

2306. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 21:23:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <br0l679e0mreg21ifeaatd70fk0c420sfo@4ax.com>
Source record: 3757

On Fri, 09 Sep 2011 09:54:02 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>I always wonder from where you people get the PVC tubes.
>My local construction markets don't.

It could differences in what we call our "building code" (the
regulations to be met for new construction, or remodeling). What we
use may not meet your local/national code - thus there is no
commercial reason to offer them for sale.

73's
Richard Clark, KB7QHC

2307. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-09 21:51:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ha1l67lbslagmufftape1snob5htugj45g@4ax.com>
Source record: 3758

On Fri, 9 Sep 2011 21:10:08 +0200, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a fairly big
>HF yagi on its top). The home-made tuner, placed at the tower base, has a
>motorized variable vacuum capacitor in series and a (properly selected) fixed
>capacitor in parallel. I can so remotely tune the variable capacitor across the
>3500 - 3800 kHz range obtaining a perfect match to 50-ohm everywhere in the
>band.

Hi Antonio,

Describe the "shunt." (I presume it is a long wire from the tuner,
standing off 10cm or so, up maybe 5 - 10 meters where it attaches to
the tower? Can I also presume that the tower goes to ground at the
base?)

>The antenna works fine and I receive good reports.

And so it would seem this would be the end of the post. But no.....

>The only thing which worries me a bit is the very high voltage that develops at
>the antenna end

End? There are at least two, and perhaps you mean the end of the
shunt at the tuner? If by "end" you mean up at the very top, then
high voltage would be expected (but worry about it would not be
expected).

By this point, there are a lot of gaps in the description (at least
for me).

>(about 6,900 Vrms at 3.500 MHz with 2kW applied, growing to
>about 8,600 Vrms at 3.800 MHz). I am not sure whether such high voltage could be
>a source of significant losses.

You worry about loss, when you receive good reports?

High voltage reveals loss in heat. Corona would be an example, but
you don't describe corona. You also don't describe heat.

>To solve my doubt, I started by precisely measuring the capacitance of the tuner
>capacitors, and I could then easily calculate the antenna impedance at 3.500
>MHz, which resulted to be (18.2 + j 656) ohm.

I think you have a sign problem. You are describing a short antenna
with inductive reactance (given the height and wavelength, very
improbable).

However, this might be the feedpoint impedance at the lower end of the
shunt - maybe, maybe not.

>ABOUT CURRENT
>With 2 kW applied, one can easily determine that the RF current flowing through
>the antenna is about 10.5A, quite higher than the 6.3A figure one would get
>should the antenna resistance be 50 ohm instead of 18.2 ohm. So, I must expect
>some more loss in the conductors due to the fairly high current.

Only in the shunt wire. Only if you are using wirewrap wire. Measure
the RESISTANCE. Multiply by CURRENT squared. You get WATTs. How
many? That is your loss. Now, if you can measure the resistance of
your tower, stand very far back because it is about to fall over from
being rusted out.

>ABOUT VOLTAGE
>The 10.5 A current flowing through the big 656 ohm antenna reactance causes the
>antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz. Touching the wire with
>a (well insulated) screwdriver, you would see a nice Tesla-like arc.

With this statement, it is obvious that you are not touching the
screwdriver to the "end" of the antenna (some 15-20 meters above your
head).

Current and voltage are not uniformly equal along the length of the
antenna. Your beam at the top acting as a top hat might yield some
uniformity, but that doesn't come from simple math analysis.

Instead, what you describe is a feedpoint impedance calculation.

>Any idea on whether the high RF voltage present on the antenna could cause some
>significant loss?

You are working very hard to find a problem that isn't there.

73's
Richard Clark, KB7QHC

2308. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 02:52:58 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <unil67p6noea2hillseio0g7569to7kns9@4ax.com>
Source record: 3759

On 09 Sep 2011 19:50:43 GMT, dave <dave@dave.dave> wrote:

>Jeff Liebermann wrote:
>> Yep. If the repeater is going in any of the buildings where I have
>> equipement, it will need a cavity and ferrite isolator to prevent
>> intermod problems. I know of one building that demands Heliax, no
>> braided coax including LMR-xxx coax, all silver plated connectors, and
>> other draconian anti-intermod measures. Tempest like packaging on all
>> computahs. All I can say is that it works (if you can afford it).

>I've never seen that anywhere. Intermod is a math problem. No amount of
>silver plating will fix bad coordination.

Sounds like you've never had to deal with transmitted intermod.
Consider yourself lucky as getting rid of it is a PITA. Also, not all
intermod comes from mixing in the receiver. TX intermod is real and
preventable. The xmit cavity and ferrite isolator prevent any RF from
adjacent antennas from going down the antenna, into the power amp,
mixing there with the xmit signal, and having the power amp amplify
the intermod.

Google for "intermod suppression panel".
<http://www.google.com/search?hl=en&q=intermod+suppression+panel&um=1&ie=UTF-8&tbm=isch>
<http://www.repeater-builder.com/antenna/ant-sys-index.html>
<http://antennasystems.com/product/sinclair-PC3/PC3113.html>
<http://www.telewave.com/pricelist/impanels.html>
<http://www.sinclairtechnologies.com/catalog/group.aspx?id=32>
<http://birdtechnologies.thomasnet.com/item/components/intermodulation-suppression-panels/
81-series?>
<http://www.ferrocom.com/products.htm>
<http://www.taradios.com/IM_Supression_Panels.html>
etc...

Incidentally, my Rotomola UHF MSF-5000 repeater has *THREE* isolators,
connected in series, in addition to a band pass cavity filter. Lossy,
ugly, but clean.

Next, silver plating is not a magic fix. Getting rid of bright nickel
plated cheap connectors *is* a magic fix. I've cleaned up several
systems by simply getting rid of cheap connectors and adapters and
replacing them with silver plated brass connectors (or just brass as
in Heliax connectors).

Google for "Passive Intermod Distortion":
<http://www.amphenolrf.com/simple/PIM%20Paper.pdf>
Materials: Ferromagnetic materials

such as nickel or steel must be
eliminated from the current path due to
their non-linear characteristics. Brass
and copper alloys are generally
accepted as linear materials. Tests
have shown that nickel plate under gold
on the center contact will typically result
in a 40 to 50 dB increase in PIM.
Stainless Steel in the body will usually
give a 10-20 dB increase in PIM.

More:
<https://engineering.purdue.edu/IDEAS/PIM.html> (nice video)
In case you've seen magnets taped to coax connectors, this might
explain why.

More on PID.
<http://aeroflex.com/ats/products/prodfiles/articles/8814/Intermod.pdf>

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2309. BEST 10 HOT SEXY VIDEOS AND MASALA KISS PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 06:41:44 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <da9e2208-ac5b-4ebe-b105-b2a24b55a9ef@x32g2000prf.googlegroups.com>
Source record: 3760

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

HOT VIDEOS

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romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
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ALL INTERVIEW QUESTIONS

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dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2310. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 12:57:07 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6b5ea2$0$5489$bd467cd0@news.dslextreme.com>
Source record: 3761

Jeff Liebermann wrote:

> On 09 Sep 2011 19:50:43 GMT, dave <dave@dave.dave> wrote:
>
>>Jeff Liebermann wrote:
>>> Yep. If the repeater is going in any of the buildings where I have
>>> equipement, it will need a cavity and ferrite isolator to prevent
>>> intermod problems. I know of one building that demands Heliax, no
>>> braided coax including LMR-xxx coax, all silver plated connectors, and
>>> other draconian anti-intermod measures. Tempest like packaging on all
>>> computahs. All I can say is that it works (if you can afford it).
>
>>I've never seen that anywhere. Intermod is a math problem. No amount of
>>silver plating will fix bad coordination.
>
> Sounds like you've never had to deal with transmitted intermod.
> Consider yourself lucky as getting rid of it is a PITA. Also, not all
> intermod comes from mixing in the receiver. TX intermod is real and
> preventable. The xmit cavity and ferrite isolator prevent any RF from
> adjacent antennas from going down the antenna, into the power amp,
> mixing there with the xmit signal, and having the power amp amplify
> the intermod.

An intermod study compares transmit freqs as well as input freqs.
Circulators are accepted practice. The intermod study will tell you if
you need more traps, BPF, etc. There is a lot of pseudoscience in
technology (and a comparable amount of "overkill"). By far, the worst
problem I encounter is XM radio on 2.5 gHz and ground radar from
airplanes (they like to use tower sites as benchmarks).

I have worked some of the premiere sites (Cedar Hill, Mt. Wilson, South
Mountain in Phoenix, Mt. Harvard, Senior Road in Houston, the John
Hancock building, the router room at Channel 4, etc.) and I have never
seen a blanket ban on LMR because it leaks.

2311. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 12:58:01 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6b5ed8$0$5526$bd467cd0@news.dslextreme.com>
Source record: 3762

Richard Clark wrote:

> On Fri, 09 Sep 2011 09:54:02 +0200, Helmut Wabnig <hwabnig@.- ---
> -.dotat> wrote:
>
>>I always wonder from where you people get the PVC tubes.
>>My local construction markets don't.
>
> It could differences in what we call our "building code" (the
> regulations to be met for new construction, or remodeling). What we
> use may not meet your local/national code - thus there is no
> commercial reason to offer them for sale.
>
> 73's
> Richard Clark, KB7QHC

Where can you not use PVC for lawn sprinklers?

2312. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 13:12:23 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j4fnnolmi1@dont-email.me>
Source record: 3763

All it takes is ONE user who believes himself to be above
any technical standards in his quest to maximize profit.

These are the same clowns that strip a site of any and all
hardware that isn't nailed down or currently connected to
something.

Or throw together a "repeater" out of junk bought at the
swap meet and nailed to a piece of plywood.

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2313. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 13:15:40 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6b62fc$0$5528$bd467cd0@news.dslextreme.com>
Source record: 3764

Antonio Vernucci wrote:

> For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a fairly big
> HF yagi on its top). The home-made tuner, placed at the tower base, has a
> motorized variable vacuum capacitor in series and a (properly selected) fixed
> capacitor in parallel. I can so remotely tune the variable capacitor across the
> 3500 - 3800 kHz range obtaining a perfect match to 50-ohm everywhere in the
> band. The antenna works fine and I receive good reports.
>
> The only thing which worries me a bit is the very high voltage that develops at
> the antenna end (about 6,900 Vrms at 3.500 MHz with 2kW applied, growing to
> about 8,600 Vrms at 3.800 MHz). I am not sure whether such high voltage could be
> a source of significant losses.
>
> To solve my doubt, I started by precisely measuring the capacitance of the tuner
> capacitors, and I could then easily calculate the antenna impedance at 3.500
> MHz, which resulted to be (18.2 + j 656) ohm.
>
> ABOUT CURRENT
> With 2 kW applied, one can easily determine that the RF current flowing through
> the antenna is about 10.5A, quite higher than the 6.3A figure one would get
> should the antenna resistance be 50 ohm instead of 18.2 ohm. So, I must expect
> some more loss in the conductors due to the fairly high current.
>
> ABOUT VOLTAGE
> The 10.5 A current flowing through the big 656 ohm antenna reactance causes the
> antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz. Touching the wire with
> a (well insulated) screwdriver, you would see a nice Tesla-like arc. I am
> wondering whether such a high voltage could constitute, by itself, a source of
> extra loss. Please note that the wire coming down from the tower is connected
> directly to the vacuum capacitor terminal, with no stand-off insulator. So, I do
> not see a place where power can get dissipated due to the high RFvoltage, other
> than perhaps in the humid air (?).
>
> I could probably avoid this situation by changing the tap height on the tower,
> but I would run the risk of not being any longer able to tune across the whole
> 3500 - 3800 kHz band adjusting one of the two capacitors, and not both.
>
> Any idea on whether the high RF voltage present on the antenna could cause some
> significant loss?
>
> Thanks and 73
>
> Tony I0JX

> Rome, Italy

You did not describe your RF ground.

2314. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 15:39:05 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <1qvm679bva5f1l88uono8jvkuad7oij96h@4ax.com>
Source record: 3765

On 10 Sep 2011 12:57:07 GMT, dave <dave@dave.dave> wrote:

>I have worked some of the premiere sites (Cedar Hill, Mt. Wilson, South
>Mountain in Phoenix, Mt. Harvard, Senior Road in Houston, the John
>Hancock building, the router room at Channel 4, etc.) and I have never
>seen a blanket ban on LMR because it leaks.

It's not leakage. The problem is the plated steel wire used over the
foil wrap on the shield. The steel is non-linear and subject to PIM
(Passive Intermod) problems. The aluminum foil to steel junction can
easily become a diode if the mylar coating is penetrated. I've seen
it with LMR-400 on a lab test similar to the YouTube video that you
apparently didn't watch. The problem was bad enough that Times had to
conjure a special mutation of LMR-400 with low PIM:
<http://timesmicrowave.com/products/lmr/downloads/126-129.pdf>
I think (not sure) that the only difference is that the braid over the
foil is now aluminum.

The initial reaction of most techs is that the PIM is sufficiently low
level that it would not have an effect on receiver performance. Wrong.
In cell sites, where squeezing every dBm of sensitivity out of the
receiver is necessary to deal with perpetually marginal cell phone
handset signals, that install cryogenically cooled front ends and
tower mounted preamps to do this, can definitely see the effect. Look
at a cell site install and try to find anything other than Heliax.

"SITE MANAGEMENT EQUIPMENT INSTALLATION RULES" (sample)
<http://www.repeater-builder.com/antenna/site-stuff/radiositerules.html>
"C. All cabling from the building to tower including on the
tower to the antenna, shall consist of a minimum of 1/4 inch
jacketed corrugated copper "Heliax" type cable. Semi-rigid
"LMR-400", "LMR-600", etc. cable and non-rigid cable, such as
RG8, RG, 213, RG-214, RG8X, etc. will NOT be used as
transmission cable exiting the building."

In most cases, this has been extended to include internal coax cabling
that carry transmit RF.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2315. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 16:02:01 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <151n67ttbn6r0mjn3lhpbqour9f4nvaftf@4ax.com>
Source record: 3766

On Sat, 10 Sep 2011 08:12:23 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>All it takes is ONE user who believes himself to be above
>any technical standards in his quest to maximize profit.

Yep. However, sometime they actually have a clue. One of my friends
recently orchestrated a site cleanup and purge, emphasizing coax
cables and isolators. After the complaining, yelling, and screaming
stopped, so did the intermod. On the other foot, the county decided
to do the same things on a crowded tower that we were sharing. All
the LRM-400 came down, and was replaced by Heliax. Much of the
intermod went away, but the mixes generated in the receiver front ends
remained.

>These are the same clowns that strip a site of any and all
>hardware that isn't nailed down or currently connected to
>something.

They're probably the same clowns that steal my scope probes that I
leave plugged into the scopes at various sites.

I had a weird problem related to unused equipment. There was an
unused "smog alert" receiver at one site, connected to an external
ground plane antenna half way up the tower. It was turned off as the
system was obsolete. Someone noticed that if they unplugged the
antenna connector, some of the intermod would magically disappear. The
outside antenna was picking up RF from the tower, delivering into the
building, and the badly shielded receiver front end was re-radiating
it all over the rack. The building manager immediately instituted a
reign of terror, demanding that all unused equipment and antennas be
removed, resulting in most of the junk exiting the building and tower.
There was a slight but noticeable decrease in intermod. Oh well.

>Or throw together a "repeater" out of junk bought at the
>swap meet and nailed to a piece of plywood.

Ahem... You must have been looking at my photos. Please don't do
that. Here's our unfinished plywood APRS weather station, built on a
plywood (with ash veneer) bookshelf:
<http://802.11junk.com/jeffl/WR6AOK-WX-Station/>
The 2m bottle is not in the picture. I use screws, not nails. There
was a good (political) reason to use plywood. Also, the rack in my
living room has plywood shelves, as are the radios in my Subaru.

--
Jeff Liebermann jeffl@cruzio.com

150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2316. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 18:13:45 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6ba887$0$44209$4fafbaef@reader1.news.tin.it>
Source record: 3767

I did not describe the RF ground because I consider it not relevant to my question.

Anyway, the ground system is formed by 64 quarter-wave radials.

73

Tony I0JX
Rome, Italy

"dave" <dave@dave.dave> ha scritto nel messaggio
news:4e6b62fc$0$5528$bd467cd0@news.dslextreme.com...
> You did not describe your RF ground.

> Antonio Vernucci wrote:
>
>> For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a fairly
>> big
>> HF yagi on its top). The home-made tuner, placed at the tower base, has a
>> motorized variable vacuum capacitor in series and a (properly selected) fixed
>> capacitor in parallel. I can so remotely tune the variable capacitor across
>> the
>> 3500 - 3800 kHz range obtaining a perfect match to 50-ohm everywhere in the
>> band. The antenna works fine and I receive good reports.
>>
>> The only thing which worries me a bit is the very high voltage that develops
>> at
>> the antenna end (about 6,900 Vrms at 3.500 MHz with 2kW applied, growing to
>> about 8,600 Vrms at 3.800 MHz). I am not sure whether such high voltage could
>> be
>> a source of significant losses.
>>
>> To solve my doubt, I started by precisely measuring the capacitance of the
>> tuner
>> capacitors, and I could then easily calculate the antenna impedance at 3.500
>> MHz, which resulted to be (18.2 + j 656) ohm.
>>
>> ABOUT CURRENT
>> With 2 kW applied, one can easily determine that the RF current flowing
>> through
>> the antenna is about 10.5A, quite higher than the 6.3A figure one would get
>> should the antenna resistance be 50 ohm instead of 18.2 ohm. So, I must
>> expect
>> some more loss in the conductors due to the fairly high current.
>>
>> ABOUT VOLTAGE

>> The 10.5 A current flowing through the big 656 ohm antenna reactance causes
>> the
>> antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz. Touching the wire
>> with
>> a (well insulated) screwdriver, you would see a nice Tesla-like arc. I am
>> wondering whether such a high voltage could constitute, by itself, a source
>> of
>> extra loss. Please note that the wire coming down from the tower is connected
>> directly to the vacuum capacitor terminal, with no stand-off insulator. So, I
>> do
>> not see a place where power can get dissipated due to the high RFvoltage,
>> other
>> than perhaps in the humid air (?).
>>
>> I could probably avoid this situation by changing the tap height on the
>> tower,
>> but I would run the risk of not being any longer able to tune across the
>> whole
>> 3500 - 3800 kHz band adjusting one of the two capacitors, and not both.
>>
>> Any idea on whether the high RF voltage present on the antenna could cause
>> some
>> significant loss?
>>
>> Thanks and 73
>>
>> Tony I0JX
>> Rome, Italy
>

2317. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 18:27:58 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6bac2e$0$5530$bd467cd0@news.dslextreme.com>
Source record: 3768

Jeff Liebermann wrote:

> On 10 Sep 2011 12:57:07 GMT, dave <dave@dave.dave> wrote:
>
>>I have worked some of the premiere sites (Cedar Hill, Mt. Wilson, South
>>Mountain in Phoenix, Mt. Harvard, Senior Road in Houston, the John
>>Hancock building, the router room at Channel 4, etc.) and I have never
>>seen a blanket ban on LMR because it leaks.
>
> It's not leakage. The problem is the plated steel wire used over the
> foil wrap on the shield. The steel is non-linear and subject to PIM
> (Passive Intermod) problems. The aluminum foil to steel junction can
> easily become a diode if the mylar coating is penetrated. I've seen
> it with LMR-400 on a lab test similar to the YouTube video that you
> apparently didn't watch. The problem was bad enough that Times had to
> conjure a special mutation of LMR-400 with low PIM:
> <http://timesmicrowave.com/products/lmr/downloads/126-129.pdf>
> I think (not sure) that the only difference is that the braid over the
> foil is now aluminum.
>
> The initial reaction of most techs is that the PIM is sufficiently low
> level that it would not have an effect on receiver performance. Wrong.
> In cell sites, where squeezing every dBm of sensitivity out of the
> receiver is necessary to deal with perpetually marginal cell phone
> handset signals, that install cryogenically cooled front ends and
> tower mounted preamps to do this, can definitely see the effect. Look
> at a cell site install and try to find anything other than Heliax.
>
> "SITE MANAGEMENT EQUIPMENT INSTALLATION RULES" (sample)
> <http://www.repeater-builder.com/antenna/site-stuff/radiositerules.html>
> "C. All cabling from the building to tower including on the
> tower to the antenna, shall consist of a minimum of 1/4 inch
> jacketed corrugated copper "Heliax" type cable. Semi-rigid
> "LMR-400", "LMR-600", etc. cable and non-rigid cable, such as
> RG8, RG, 213, RG-214, RG8X, etc. will NOT be used as
> transmission cable exiting the building."
>
> In most cases, this has been extended to include internal coax cabling
> that carry transmit RF.
>

Cell sites are a different animal . We were talking about 2-way,
point-to-point, VHF/UHF broadcast type sites. YouTube is pretty intense.

2318. Re: Thoughts about the tape measure 3 element direction finding Yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 19:03:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cqcn67d2r8skkgv83o9haouiqjll0m91gs@4ax.com>
Source record: 3769

On 10 Sep 2011 12:58:01 GMT, dave <dave@dave.dave> wrote:

>Where can you not use PVC for lawn sprinklers?

Do they use PVC for their lawn sprinklers in Germany? Even for this
application there are code requirements (anti-siphon connection).

73's
Richard Clark, KB7QHC

2319. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 22:04:26 UTC
From: dplatt@radagast.org
Message-ID: <ag3tj8-vg3.ln1@radagast.org>
Source record: 3770

In article <1qvm679bva5f1l88uono8jvkuad7oij96h@4ax.com>,
Jeff Liebermann <jeffl@cruzio.com> wrote:

>>I have worked some of the premiere sites (Cedar Hill, Mt. Wilson, South
>>Mountain in Phoenix, Mt. Harvard, Senior Road in Houston, the John
>>Hancock building, the router room at Channel 4, etc.) and I have never
>>seen a blanket ban on LMR because it leaks.
>
>It's not leakage. The problem is the plated steel wire used over the
>foil wrap on the shield. The steel is non-linear and subject to PIM
>(Passive Intermod) problems. The aluminum foil to steel junction can
>easily become a diode if the mylar coating is penetrated. I've seen
>it with LMR-400 on a lab test similar to the YouTube video that you
>apparently didn't watch. The problem was bad enough that Times had to
>conjure a special mutation of LMR-400 with low PIM:
><http://timesmicrowave.com/products/lmr/downloads/126-129.pdf>
>I think (not sure) that the only difference is that the braid over the
>foil is now aluminum.

That same diode-like effect also seems to be capable of causing the
cable to generate a nontrivial amount of broadband noise, when
energized by a sufficiently strong transmitter signal. In simplex
applications this seems not to matter, but in repeater applications it
tends to cause enough of an increase in the noise floor at the
receiver to appreciably de-sensitize the receiver.

The system I work on, was originally build with LMR-type feedlines
within the cabinet, and didn't "hear" particularly well. When the
chief hardware guru threw out all of those (well-constructed)
pigtails, and replaced them with 1/4" heliax... the problem went away
and has not returned.

Heliax is good. Double-braid shielded cable (with silver-plated
copper braid, not aluminum) seems to be almost as good.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2320. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-10 22:09:33 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4gn70rua1@dont-email.me>
Source record: 3771

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:151n67ttbn6r0mjn3lhpbqour9f4nvaftf@4ax.com...

>
> I had a weird problem related to unused equipment. There was an
> unused "smog alert" receiver at one site, connected to an external
> ground plane antenna half way up the tower. It was turned off as the
> system was obsolete. Someone noticed that if they unplugged the
> antenna connector, some of the intermod would magically disappear.

Such is the case on USN ships of my acquaintance. If the ship buys a
commercial transceiver and throws the antenna any old place, the front
end becomes a mixer. There's a reason why (most) military gear is
pricey. It's been engineered not to do that.

Aside:
It's not always an active device that causes problems. I had one ship
that was getting massive interference on UHF comm circuits between
about 325 MHz to 399 MHz. from a radar operating around 430 MHz.
Normally not a problem. The cause was a tangled hunk of wire I
found in the field of the radar. It had been used to secure scaffolding
during the ship's previous inport period.

Every time the radar lit up that bailing wire, the resulting arcing
and sparkling generated broadband RF pulses at the radar's rep rate.

I was climbing around on the mast, looking for just something of the
sort. When I saw that wire, I actually spoke out loud to it.

I said, "Well, hello there!" True story.

It's one of several reasons we preached "Topside Housekeeping"
to our Sailors during ship visits. Leave nothing on the mast that
doesn't have to be there.

"Sal"

2321. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 13:32:15 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6cb85e$0$5528$bd467cd0@news.dslextreme.com>
Source record: 3772

Dave Platt wrote:

> In article <1qvm679bva5f1l88uono8jvkuad7oij96h@4ax.com>,
> Jeff Liebermann <jeffl@cruzio.com> wrote:
>

> That same diode-like effect also seems to be capable of causing the
> cable to generate a nontrivial amount of broadband noise, when
> energized by a sufficiently strong transmitter signal. In simplex
> applications this seems not to matter, but in repeater applications it
> tends to cause enough of an increase in the noise floor at the
> receiver to appreciably de-sensitize the receiver.
>
> The system I work on, was originally build with LMR-type feedlines
> within the cabinet, and didn't "hear" particularly well. When the
> chief hardware guru threw out all of those (well-constructed)
> pigtails, and replaced them with 1/4" heliax... the problem went away
> and has not returned.
>
> Heliax is good. Double-braid shielded cable (with silver-plated
> copper braid, not aluminum) seems to be almost as good.
>

Interesting. I always hear people bragging about LMR. Are we using the
term "Heliax" generically? Is semi-flex no good too, (It's all aluminum
and brass metallically isn't it?)

Did your guru make a profit on the replacement cables? How do you know a
$15 can of Cramolin wouldn't have helped just as much?

Tinned copper braid is OK, no?

http://www.corrosionist.com/Corros1.gif

2322. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 15:20:41 UTC
From: Francis
Message-ID: <cbkp67d23sld3u3cmut6bt8lfnqahm5j6c@4ax.com>
Source record: 3773

On 09 Sep 2011 19:47:37 GMT, dave <dave@dave.dave> wrote:

>Francis wrote:
>
>> On 09 Sep 2011 12:56:18 GMT, dave <dave@dave.dave> wrote:
>>
>>>n1ald wrote:
>>>
>>>> Why not just download HRD http://www.ham-radio-deluxe.com/ for free?
>>>
>>>You actually need a real radio?
>>
>> Uh, yeah. Maybe you would benefit from a visit to the HRD web site at the link
>> above. It's a control program for Amateur Radios with computer control
>> capabilities. It's a great program with a lot of functionality. Just check out
>> the site, really. That should make things clear to you.
>
>I think you need Windows.

2 go 2 a web site?

2323. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 15:51:53 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <pekp67h9guite25mb3u04n5g1vc2imm8oc@4ax.com>
Source record: 3774

>Dave Platt wrote:
>> That same diode-like effect also seems to be capable of causing the
>> cable to generate a nontrivial amount of broadband noise, when
>> energized by a sufficiently strong transmitter signal.

Yeah, I've seen some of that. I spent several days finding the culprit on a UHF repeater where the over the air rx sensitivity varied substantially and erratically. Watching the IF noise level, showed it going up and down with the sensitivity changes. In frustration, I grabbed a broomstick and beat on the accessible coax cables. I eventually found a length of 9913 coax that was apparently involved. I replaced it, and the noise problem disappeared. Inspecting the coax carefully, the outer jacket was slightly corroded and white dust was visible.

>> In simplex
>> applications this seems not to matter, but in repeater applications it
>> tends to cause enough of an increase in the noise floor at the
>> receiver to appreciably de-sensitize the receiver.

Yep, but the mechanism isn't obvious. All transmitters belch some level of synthesizer or oscillator noise. The notch type duplexer does a great job of getting rid of the noise in the receiver bandpass produced by the transmitter. However, when there's a diode present, the very low level tx synthesizer spurs, or other signals picked up at the antenna, mix with the tx synthesizer noise, and land on the receiver frequency. It's intermod, but instead of dealing with a collection of individual frequencies, it deals with broadband noise. The same mechanism is a problem in broadband mux, broadcast, and cellular systems.

>> The system I work on, was originally build with LMR-type feedlines
>> within the cabinet, and didn't "hear" particularly well. When the
>> chief hardware guru threw out all of those (well-constructed)
>> pigtails, and replaced them with 1/4" heliax... the problem went away
>> and has not returned.

Requiring Heliax is a good but expensive solution. Requiring Heliax on initial installation makes is somewhat less expensive.

>> Heliax is good. Double-braid shielded cable (with silver-plated
>> copper braid, not aluminum) seems to be almost as good.

Sorta. I have problems securely attaching connectors to RG-213/u. Unlike the rigid and semi-rigid cables, crimp type connectors are problematic. In addition, much of the RG-213/u floating around is NOT

silver plated, but bare copper. That will corrode, and form diodes.

I also don't like the attenuation of RG-213/u. 5.1dB/100ft at 450MHz,
while LMR-400 is 2.7dB/100ft at 450MHz.

On 11 Sep 2011 13:32:15 GMT, dave <dave@dave.dave> wrote:
>Interesting. I always hear people bragging about LMR. Are we using the
>term "Heliax" generically? Is semi-flex no good too, (It's all aluminum
>and brass metallically isn't it?)

A picture is worth 1000 words:
Heliax:
<http://www.google.com/search?tbm=isch&q=heliax>
LMR type coax:
<http://www.google.com/search?tbm=isch&q=LMR+coax>

I've never heard of semi-flex. Perhaps you mean semi-rigid coax,
which includes aluminum outer jacket coax as used in the CATV
industry? The coax is fine, but where it transitions to a brass or
silver plated connector, there's a problem. In general, it's a bad
idea for reducing PIM (although I use CATV coax because I'm cheap).

>Did your guru make a profit on the replacement cables?

Guru's do not stay in business very long unless they're profitable.
Even the glorified poverty style of guru has to eat.

>How do you know a
>$15 can of Cramolin wouldn't have helped just as much?

Cramolin is now DeOxit and has been reformulated.
<http://store.caig.com/s.nl/sc.2/.f>
It's a total disaster on RF connectors because it contains oleic acid,
which is great for removing oxides from electrical contacts, but
equally good at rotting off the plating from connectors over long time
periods. The reformulated DeOxit allegedly contains a different
anti-oxidant, which allegedly has the same effect.

>Tinned copper braid is OK, no?

Dunno. I never use tinned braid except for some semi-rigid microwave
coax, which is quite stiff. Most often I see tin plated braid. Since
tin is not magnetic, there's no PIM problem.

>http://www.corrosionist.com/Corros1.gif

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2324. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 16:47:22 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j4iomq$3fd$1@dont-email.me>
Source record: 3775

On 9/11/2011 10:20 AM, Francis wrote:
> On 09 Sep 2011 19:47:37 GMT, dave<dave@dave.dave> wrote:
>
>> Francis wrote:
>>
>>> On 09 Sep 2011 12:56:18 GMT, dave<dave@dave.dave> wrote:
>>>
>>>> n1ald wrote:
>>>>
>>>>> Why not just download HRD http://www.ham-radio-deluxe.com/ for free?
>>>>
>>>> You actually need a real radio?
>>>
>>> Uh, yeah. Maybe you would benefit from a visit to the HRD web site at the link
>>> above. It's a control program for Amateur Radios with computer control
>>> capabilities. It's a great program with a lot of functionality. Just check out
>>> the site, really. That should make things clear to you.
>>
>> I think you need Windows.
>
> 2 go 2 a web site?

To see what's happening outside.

2325. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 17:22:07 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6cee3f$0$5544$bd467cd0@news.dslextreme.com>
Source record: 3776

Francis wrote:

> On 09 Sep 2011 19:47:37 GMT, dave <dave@dave.dave> wrote:
>
>>Francis wrote:
>>
>>> On 09 Sep 2011 12:56:18 GMT, dave <dave@dave.dave> wrote:
>>>
>>>>n1ald wrote:
>>>>
>>>> Why not just download HRD http://www.ham-radio-deluxe.com/ for free?
>>>>
>>>>You actually need a real radio?
>>>
>>> Uh, yeah. Maybe you would benefit from a visit to the HRD web site at the link
>>> above. It's a control program for Amateur Radios with computer control
>>> capabilities. It's a great program with a lot of functionality. Just check out
>>> the site, really. That should make things clear to you.
>>
>>I think you need Windows.
>
> 2 go 2 a web site?

To run HRD. I'm already aware of it. People who refer to their computers
as if they were automobiles use it. I am running my ham radio station on
Puppy Linux and fldigi for control and soundcard modes. My computer is
an "Everex 2500", which is a little tiny low powered VIA C7D-based
system that WalMart tried selling back in 2008 or so. I bought one.
Microsoft wants $150 for an OS on a $150 computer. Screw that.

Did I mention that this computer idles at around 25 Watts? Less than
most notebooks?

2326. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 17:22:27 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6cee53$0$5548$bd467cd0@news.dslextreme.com>
Source record: 3777

John S wrote:

> On 9/11/2011 10:20 AM, Francis wrote:
>> On 09 Sep 2011 19:47:37 GMT, dave<dave@dave.dave> wrote:
>>
>>> Francis wrote:
>>>
>>>> On 09 Sep 2011 12:56:18 GMT, dave<dave@dave.dave> wrote:
>>>>
>>>>> n1ald wrote:
>>>>>
>>>>>> Why not just download HRD http://www.ham-radio-deluxe.com/ for free?
>>>>>
>>>>> You actually need a real radio?
>>>>
>>>> Uh, yeah. Maybe you would benefit from a visit to the HRD web site at the link
>>>> above. It's a control program for Amateur Radios with computer control
>>>> capabilities. It's a great program with a lot of functionality. Just check out
>>>> the site, really. That should make things clear to you.
>>>
>>> I think you need Windows.
>>
>> 2 go 2 a web site?
>
> To see what's happening outside.

Arr.

2327. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 17:29:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj6proa.e7h.gsm@cable.mendelson.com>
Source record: 3778

Jeff Liebermann wrote:
>
> Cramolin is now DeOxit and has been reformulated.
><http://store.caig.com/s.nl/sc.2/.f>
> It's a total disaster on RF connectors because it contains oleic acid,
> which is great for removing oxides from electrical contacts, but
> equally good at rotting off the plating from connectors over long time
> periods. The reformulated DeOxit allegedly contains a different
> anti-oxidant, which allegedly has the same effect.

Cramolin is still alive and well. It was and still is made in Germany,
DeOxit is made in the US, Caig used to be the US distributor of Cramolin
products, but went their own way, with a different formula.

I'm not sure which one is the one that you call "a total disaster", but
AFIK neither is to be used for anything except cleaning. Caig sells
solutions (pardon the pun) for use on connectors.

I have them because I can only buy DeOxit in small tubes off of eBay and
still get it shipped here, and that was the only way I could get fader lube,
but I have never used them.

Don't go looking it up and show me auctions of just fader lube, after I
ordered the sets, which did not show I up, I commented to the vendor
that I wanted just the fader lube and now they list it.
They also replaced the missing packages.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2328. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 17:47:19 UTC
From: dplatt@radagast.org
Message-ID: <7q8vj8-9as.ln1@radagast.org>
Source record: 3779

In article <4e6cb85e$0$5528$bd467cd0@news.dslextreme.com>,
dave <dave@dave.dave> wrote:

>> Heliax is good. Double-braid shielded cable (with silver-plated
>> copper braid, not aluminum) seems to be almost as good.
>>
>
>Interesting. I always hear people bragging about LMR. Are we using the
>term "Heliax" generically?

Yes... I meant "cable with a solid or near-solid outer conductor".

> Is semi-flex no good too, (It's all aluminum
>and brass metallically isn't it?)

I think that the key is avoidance of (1) contact of dissimilar metals
and (2) ferromagnetic materials. And, you want a cable where you can
get a really good electrical contact between the outer braid, and the
connector shell. I believe that solder beats crimp in this
application, since you end up with a connection which will reliably
remain gas-tight and won't oxidize. A good semi-flex would probably
be fine, I'd guess.

LMR-400 seems to be dodgy (for repeater use) over several of these
issues.

I do like it for simplex applications.

>Did your guru make a profit on the replacement cables? How do you know a
>$15 can of Cramolin wouldn't have helped just as much?

Nope... he's one of the volunteers in the repeater group. He donates
his time, we use donated materials (e.g. the heliax cable,
ex-cell-site) when possible, and any supplies the repeater needs are
bought from independent commercial suppliers (e.g. the connectors, in
this case). He was annoyed at having to go to the trouble of
replacing the existing pigtails, but *very* pleased at the result...
it turned the system from a "basket of snakes" into one in which the
three repeaters in the cabinet can all operate simultaneously and
independently without any cross-band interference that we can detect
in any way.

We're also sharing the hospital-roof site with at least one cellphone
system, one pager transmitter (for several years - gone now), and
several public-safety LMR repeaters... and so doing things carefully
is quite important!

Both sets of cables (the original LMR and the replacement hardline)
had high-quality commercial-grade connectors... no cheap nickel-plated
imports. Hence, I do think it's accurate to ascribe the difference in
performance to the cable itself.

Cramolin is nice stuff for dealing with connector-to-connector contact
issues, but it doesn't do a thing for problems internal to the cable.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2329. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 17:57:31 UTC
From: dplatt@radagast.org
Message-ID: <bd9vj8-9as.ln1@radagast.org>
Source record: 3780

In article <pekp67h9guite25mb3u04n5g1vc2imm8oc@4ax.com>,
Jeff Liebermann <jeffl@cruzio.com> wrote:

>Sorta. I have problems securely attaching connectors to RG-213/u.
>Unlike the rigid and semi-rigid cables, crimp type connectors are
>problematic. In addition, much of the RG-213/u floating around is NOT
>silver plated, but bare copper. That will corrode, and form diodes.

Yeah, you have to make sure you're getting the "good stuff", with
silver-plated copper braid... and then (I think) solder, rather
than crimp.

>>Interesting. I always hear people bragging about LMR. Are we using the
>>term "Heliax" generically? Is semi-flex no good too, (It's all aluminum
>>and brass metallically isn't it?)
>
>A picture is worth 1000 words:
>Heliax:
><http://www.google.com/search?tbm=isch&q=heliax>
>LMR type coax:
><http://www.google.com/search?tbm=isch&q=LMR+coax>
>
>I've never heard of semi-flex. Perhaps you mean semi-rigid coax,
>which includes aluminum outer jacket coax as used in the CATV
>industry? The coax is fine, but where it transitions to a brass or
>silver plated connector, there's a problem. In general, it's a bad
>idea for reducing PIM (although I use CATV coax because I'm cheap).

See http://www.isoconnector.com/cableassemblies.html - "semi-rigid"
and "semi-flex" are different constructions.

>Cramolin is now DeOxit and has been reformulated.

Well, sorta and sorta not. Cramolin is still made by the original
(German) manufacturer, but isn't easily acquired in the U.S. DeOxIt
is made by Caig, who used to import Cramolin but are now making a
similar product themselves.

>It's a total disaster on RF connectors because it contains oleic acid,
>which is great for removing oxides from electrical contacts, but
>equally good at rotting off the plating from connectors over long time
>periods. The reformulated DeOxit allegedly contains a different
>anti-oxidant, which allegedly has the same effect.

My recollection is that the instructions which came with Cramolin said
that you should clean the remains of the "red" Cramolin (the oxide
remover) off of the contacts after de-oxidizing.

They made another "blue" product which was intended to provide some residual anti-re-tarnishing protection... I think it was based on palm oil.

When I use Cramolin (I still have a bit of the concentrate) or DeOxIt on contacts, I follow it with a final cleaning using isopropyl or denatured alcohol (or acetone if I'm feeling really thorough), to remove the remains of the anti-oxidant.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

2330. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 18:16:40 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <tntp6753ng57hva09i4l4nrtovbf80349k@4ax.com>
Source record: 3781

On Sun, 11 Sep 2011 17:29:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>Jeff Liebermann wrote:
>>
>> Cramolin is now DeOxit and has been reformulated.
>><http://store.caig.com/s.nl/sc.2/.f>
>> It's a total disaster on RF connectors because it contains oleic acid,
>> which is great for removing oxides from electrical contacts, but
>> equally good at rotting off the plating from connectors over long time
>> periods. The reformulated DeOxit allegedly contains a different
>> anti-oxidant, which allegedly has the same effect.

>Cramolin is still alive and well. It was and still is made in Germany,
>DeOxit is made in the US, Caig used to be the US distributor of Cramolin
>products, but went their own way, with a different formula.

Got it. All I can find it DeOxit in California.
More detail:
<http://siber-sonic.com/electronics/caig.html>

>I'm not sure which one is the one that you call "a total disaster", but
>AFIK neither is to be used for anything except cleaning. Caig sells
>solutions (pardon the pun) for use on connectors.

Different stuff. Most of it is just grease to keep the connectors
from oxidizing. The total disaster was what I found on a tower where
someone had used Cramolin to clean an assortment of 7/16 DIN and N
connectors. The 7/16 DIN connectors were stainless. They turned
black and had a rough pitted surface. The N-connectors were silver on
brass. The silver was intact, but would flake off in small pieces,
exposing the underlying brass, which rapidly turned dark green.
Everything had to be replaced. I don't recall how long it took to get
to this point but I think it was at least 2-3 years.

If you Google for corrosion characteristics of oleic acid, you'll find
that it attacks steels, but is compatible with copper. Not true. Pure
oleic is compatible, but add some water and the stuff becomes
corrosive.

Oleic acid is a major component (70%?) of peanut oil. You could
probably use peanut oil mixed with some organic solvent in place of
Cramolin. (No, I haven't tried it).

>I have them because I can only buy DeOxit in small tubes off of eBay and
>still get it shipped here, and that was the only way I could get fader lube,
>but I have never used them.

>
>Don't go looking it up and show me auctions of just fader lube, after I
>ordered the sets, which did not show I up, I commented to the vendor
>that I wanted just the fader lube and now they list it.
>They also replaced the missing packages.

I mix many of my own chemicals. Most of the tuner lube type stuff is
fairly simple. Organic solvent, ionic solvent (water soluble), oxide
remover, and some oil:
<http://store.caig.com/s.nl/sc.2/category.293/.f>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2331. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 18:39:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj6pvqc.j9k.gsm@cable.mendelson.com>
Source record: 3782

Jeff Liebermann wrote:

> Got it. All I can find it DeOxit in California.
> More detail:
><http://siber-sonic.com/electronics/caig.html>

I believe on of the reasons that Caig stopped carrying it was that it is
too corrosive to put on an airplane and they wanted something UPS/FEDEX
would carry.

> Different stuff. Most of it is just grease to keep the connectors
> from oxidizing. The total disaster was what I found on a tower where
> someone had used Cramolin to clean an assortment of 7/16 DIN and N
> connectors. The 7/16 DIN connectors were stainless. They turned
> black and had a rough pitted surface. The N-connectors were silver on
> brass. The silver was intact, but would flake off in small pieces,
> exposing the underlying brass, which rapidly turned dark green.
> Everything had to be replaced. I don't recall how long it took to get
> to this point but I think it was at least 2-3 years.

Ok, good thing I only use it to clean contacts and that's a drop on the end
of a q-tip or toothpick.

> I mix many of my own chemicals. Most of the tuner lube type stuff is
> fairly simple. Organic solvent, ionic solvent (water soluble), oxide
> remover, and some oil:
><http://store.caig.com/s.nl/sc.2/category.293/.f>

For me those days have passed. Between space limitations, lack of working
area, inability to order those chemicals, etc, I'm going to have to make
do with little tubes sent airmail. Luckily I don't need much and have
all I need for a long time. :-)

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2332. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 22:09:11 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4jbho$j88$1@dont-email.me>
Source record: 3784

"Dave Platt" <dplatt@radagast.org> wrote in message
news:bd9vj8-9as.ln1@radagast.org...

< snip >

> When I use Cramolin (I still have a bit of the concentrate) or DeOxIt
> on contacts, I follow it with a final cleaning using isopropyl or
> denatured alcohol (or acetone if I'm feeling really thorough), to
> remove the remains of the anti-oxidant.

Isn't there any concern for plastic deterioration from the acetone? When I read what you wrote, I cringed, having seen acetone's effect on (some) plastics. Keeping a few four-leaf clovers on the bench?

73,
Sal

2333. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 22:09:28 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <94bq6750kk5nkm2mnoots6ni79ens1c70h@4ax.com>
Source record: 3783

On Sun, 11 Sep 2011 18:39:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>I believe on of the reasons that Caig stopped carrying it was that it is
>too corrosive to put on an airplane and they wanted something UPS/FEDEX
>would carry.

Duh... They carry peanut oil, which is 75% oleic acid, but won't
carry Cramolin, which is 5% oleic acid. I just checked the 49 CFR
list at:
<http://www.ups.com/content/us/en/resources/ship/hazardous/download/chemical.html>
and Oleic acid isn't listed. The MSDS sheet shows slightly flamable,
but otherwise safe. My guess(tm) is the business relationship fell
apart and that the UPS/Fedex story isn't true.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2334. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 22:18:50 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4jc3rmko1@dont-email.me>
Source record: 3785

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:on2f67hporgk0l67tq6lj83kd3etr1o0dc@4ax.com...

< snip >

> I carry a neon lamp line tester in my tool box. It's useful for
> checking AC power, but also for detecting high voltages on antenna
> terminals. It's amazing what I find at broadcast sites.

Yup. My work on USN ships showed me some of that. Within a few feet of any HF transmit antennas, what they call "standing rigging," things that are mounted or attached topside, can be energized with hundreds of volts. The Navy imposes RF RADHAZ and RF BURN zones in selcted topside areas. They're always marked and sometimes cordoned off with physical barriers.

2335. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 22:30:54 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4jcqf$r0b$1@dont-email.me>
Source record: 3786

"Dave Platt" <dplatt@radagast.org> wrote in message
news:nchnj8-4nb.ln1@radagast.org...

< snip
>
> I've observed clear-air charge on a TV antenna (about 30' above ground
> level) which was sufficient to create a visible spark when I touched
> the center connector of the coax to a grounded static-drain block.

Didn't Art Bell, W6OBB, former host of Coast to Coast AM, report 300 volts on his loop antenna? Even with low current, a kiss from that voltage will make you fall out of love.

2336. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 22:34:48 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <qfcq67pa5lb91a5cfmb91c92qka5g3ki0h@4ax.com>
Source record: 3787

On Sun, 11 Sep 2011 10:57:31 -0700, dplatt@radagast.org (Dave Platt)
wrote:

>See http://www.isoconnector.com/cableassemblies.html - "semi-rigid"
>and "semi-flex" are different constructions.

Thanks. I've been calling both types semi-rigid, which is wrong.

>They made another "blue" product which was intended to provide some
>residual anti-re-tarnishing protection... I think it was based on palm
>oil.

No clue on the oil, but my guess would be cheaper mineral oil and some
solvent to wash off any residue from Cramolin red. I've never used
(or seen) Cramolin Blue.

>When I use Cramolin (I still have a bit of the concentrate) or DeOxIt
>on contacts, I follow it with a final cleaning using isopropyl or
>denatured alcohol (or acetone if I'm feeling really thorough), to
>remove the remains of the anti-oxidant.

I use 409 cleaner, which has a pH of about 11, or ammonia window
cleaner, both of which should neutralize the acid. Acetone will make
a mess of anything plastic and really is overkill. For open frame
relays, I sometime use electroless silver to replate the contacts. I
also have a diy silver brush plating kit, which I use large contacts.

--
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2337. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 22:44:12 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4jdjcvcs1@dont-email.me>
Source record: 3788

"Mike Coslo" <mjc5@psu.edu> wrote in message
news:j48p9q$gc72$1@tr22n12.aset.psu.edu...

< snip >

> People do odd things. Some times it is noobs, sometimes someone connects
> the wrong cable and for some weird reason keys the transmitter, sometimes
> it is someone just not thinking.

I represent the not-thinking group. I'm 68 and have been doing electronics seriously since I joined the Navy at 18. OK?

In the mid-1990's, I managed to grab a cable I thought went to an antenna. I connected it to my H-T and made a call. Well, that cable wasn't to an antenna. It went to the input of my TM-221A. ($85.00, if you're curious)

If "Being Careless" were a franchise, I'd owe the fee every year. *sigh*

"Sal"

2338. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 22:50:08 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4jduh$1hl$1@dont-email.me>
Source record: 3789

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:aq5i67ljetg6c2q25eg7p3hktfustohjc5@4ax.com...
> <http://802.11junk.com/jeffl/pics/home/slides/BL-shop6.html>

That maroon-colored thing in the lower right corner? I'm guessing part of
chair, an incredibly useful piece of furniture for stacking things that
don't belong on the floor. :-)

2339. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 23:05:44 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <cgeq67df8r4471hd61k4b8kg3tkr0q9onq@4ax.com>
Source record: 3790

On 10 Sep 2011 18:27:58 GMT, dave <dave@dave.dave> wrote:

>Cell sites are a different animal . We were talking about 2-way,
>point-to-point, VHF/UHF broadcast type sites.

Perhaps you didn't notice but several of the examples of PIM and
rotten coax induced intermod were for non-cellular systems. The
problems are much the same with any service type. If you have
moderate TX power, magnetic materials in the connectors, and sensitive
receivers, PIM might be a concern.

Also, it may not be obvious unless you've worked on a cell site, but
the state-o-de-art in radio is currently defined by cellular. The
current generation of cellular radios, pre-distorting power amps,
tower mounted amps, cryogenic front ends, steerable antennas, channel
loading, codecs, and environmental protections, are far superior to
what I've seen in commercial radio, and light years ahead of the 3rd
hand garbage commonly found in ham repeaters. Yes, cellular is
different, but it's also quite superior. If the cellular people think
they have a PIM problem, it's probably quite real.

Unfortunately, cellular can't always get everything right:
<http://802.11junk.com/jeffl/SCCARC-talk-2010-06-18/Burning-Towers.htm>
<http://www.cellsiteanalysis.net/cell_site_analysis_images/Cell_Site_Mast_Loaded.jpg>

>YouTube is pretty intense.

Duz that mean that you still haven't watched the video clip?

--
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Skype: JeffLiebermann AE6KS 831-336-2558

2340. Re: MFJ-868 SWR/Wattmeter

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 23:20:51 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <dofq6798u01g9arkkqqvkfcmrj6tvv1ksj@4ax.com>
Source record: 3791

On Sun, 11 Sep 2011 15:50:08 -0700, "Sal" <sobars@aol.com> wrote:

>"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
>news:aq5i67ljetg6c2q25eg7p3hktfustohjc5@4ax.com...
>> <http://802.11junk.com/jeffl/pics/home/slides/BL-shop6.html>
>
>That maroon-colored thing in the lower right corner? I'm guessing part of
>chair, an incredibly useful piece of furniture for stacking things that
>don't belong on the floor. :-)

No chair... standing room only. It's part of a furniture dolly that I
use to move the two MSF5000 repeaters around the shop.
<http://www.harborfreight.com/1000-lb-capacity-movers-dolly-38970.html>
<http://802.11junk.com/jeffl/K6BJ-MSF5000/backup-repeater.jpg>
It's leaning against one side of the backup repeater. The shop also
is used for small engine repair, chemistry experiments, general
fabrication, bicycle repair, and radio repair. Bench work came to a
standstill for 2 weeks while I was waiting for chain saw parts.

--
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Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2341. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 23:53:45 UTC
From: dplatt@radagast.org
Message-ID: <99uvj8-4hn.ln1@radagast.org>
Source record: 3792

```
>> When I use Cramolin (I still have a bit of the concentrate) or DeOxIt
>> on contacts, I follow it with a final cleaning using isopropyl or
>> denatured alcohol (or acetone if I'm feeling really thorough), to
>> remove the remains of the anti-oxidant.
>
>
>Isn't there any concern for plastic deterioration from the acetone? When I
>read what you wrote, I cringed, having seen acetone's effect on (some)
>plastics. Keeping a few four-leaf clovers on the bench?

It depends on what sort of thing I'm cleaning. You're correct... I
don't use acetone on anything plastic.

Depending on the plastic, either an alcohol, or a light petroleum
solvent (Stoddard solvent, naptha, etc.) is a safer "wash".

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!
```

2342. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-11 23:57:02 UTC
From: dplatt@radagast.org
Message-ID: <efuvj8-4hn.ln1@radagast.org>
Source record: 3793

In article <qfcq67pa5lb91a5cfmb91c92qka5g3ki0h@4ax.com>,
Jeff Liebermann <jeffl@cruzio.com> wrote:

>>When I use Cramolin (I still have a bit of the concentrate) or DeOxIt
>>on contacts, I follow it with a final cleaning using isopropyl or
>>denatured alcohol (or acetone if I'm feeling really thorough), to
>>remove the remains of the anti-oxidant.
>
>I use 409 cleaner, which has a pH of about 11, or ammonia window
>cleaner, both of which should neutralize the acid. Acetone will make
>a mess of anything plastic and really is overkill.

True - it's for metals-only applications.

> For open frame
>relays, I sometime use electroless silver to replate the contacts.

Is that Cool-Amp (powder), or some form of liquid electroless silver?

I've made up (and use) a homebrew substitute for Cool-Amp - silver
chloride and salt, finely ground, and then rubbed in firmly. Makes a
nice, solderable surface for DIY PC boards.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2343. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 01:09:41 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <kmkq67p238f999il3jj23r0itss7euj7oo@4ax.com>
Source record: 3794

On Sun, 11 Sep 2011 16:57:02 -0700, dplatt@radagast.org (Dave Platt)
wrote:

>> For open frame
>>relays, I sometime use electroless silver to replate the contacts.
>
>Is that Cool-Amp (powder), or some form of liquid electroless silver?

<http://www.cool-amp.com/cool_amp.html>
That's silver chloride and calcium carbonate powder. $25/oz. Ouch.
I've used Cool-Amp immersion plating (it's not really electroless). It
works well for PCB and contact plating. You might find this of
interest:
<http://yarchive.net/electr/pc_board_silver_plating.html>

What I have is:
<http://www.transene.com/ag.html>
I think (not sure) it's a silver nitrate, ammonia, sodium hydroxide,
and who knows what else mix. One catch is that it has to be applied
warm, which is somewhat of a challenge. I'm sure easier to use stuff
exists, but I didn't pay much for the 1 oz bottle which seems to be
lasting forever. When I run out in about 10 years, I'll look at
alternatives.

More:
<http://www.finishing.com/faqs/silverathome.shtml>

>I've made up (and use) a homebrew substitute for Cool-Amp - silver
>chloride and salt, finely ground, and then rubbed in firmly. Makes a
>nice, solderable surface for DIY PC boards.

Nice, but don't use salt. Use calcium carbonate instead. Salt
(sodium chloride) might precipitate the silver out at silver chloride.

--
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Skype: JeffLiebermann AE6KS 831-336-2558

2344. mohammedimran

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 08:23:28 UTC
From: mohammed imran <mohammedimran115@gmail.com>
Message-ID: <d00ee3c3-87d3-4529-907f-7e315c46070a@z26g2000pre.googlegroups.com>
Source record: 3795

http://123maza.com/65/fun564/

2345. KAJAL AGARWAL LATEST HOT WITHOUT TOP

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 14:15:49 UTC
From: sharu <sharanya9030@gmail.com>
Message-ID: <2ed4d6b7-4e3d-420a-871c-cd546e1e782c@y39g2000prd.googlegroups.com>
Source record: 3796

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SAMANTHA HOT EXCLUSIVE PHOTOS
http://southactresstou.blogspot.com/2011/09/south-actress-samantha.html
FOR EXCLUSIVE HOT ASIN PICS
http://southactresstou.blogspot.com/2011/09/asin.html
KATRINA KAIF RARE PHOTOS
http://southactresstou.blogspot.com/2011/07/katrina-kaif-wallpapers.html
HOT SOUTH ACTRESS IN DIFFERENT DRESSES
http://southactresstou.blogspot.com/2011/08/south-actress.html
DOOKUDU LATEST MOVIE STILLS
http://southactresstou.blogspot.com/2011/08/dookudu-movie-stills.html
KAJAL LATEST ROMANTIC STILLS
http://southactresstou.blogspot.com/2011/07/kajal-agarwal-in-naperu-shiva.html
TAMANNA HOT PHOTOS & VIDEOS
http://southactresstou.blogspot.com/2011/07/tamanna-wallpapers.html

FOR ONLY HOT GUYS SEE THIS
KAJAL AGARWAL LATEST HOT WITHOUT TOP
http://hotactress-kalyani.blogspot.com/2011/08/kajal-agarwal-hot-photos.html
PRANITHA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/pranitha-hot.html
HOT KATRINAKAIF WALLPAPERS
http://hotactress-kalyani.blogspot.com/2011/08/katrina-kaif-hot.html
SAMANTHA HOT WALLPAPERS
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TAMANNA HOT PHOTOS
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HOT MALLU ACTRESS BHAMA
http://hotactress-kalyani.blogspot.com/2011/09/bhama-hot.html
TOLLYWOOD HOT ACTRESSES
http://hotactress-kalyani.blogspot.com/2011/08/hot-actrsess.html
SONAKSHI SINHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/sonakshi-sinha-hot.html
PRIYANKA CHOPRA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/priyanka-chopra-hot.html

LATEST AMISHA PATEL HOT PICS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TAPSEE DIFFERENT STILLS
http://hotactress-kalyani.blogspot.com/2011/08/tapsee-hot.html
PRIYAMANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/priyamani-hot.html

FOR FAST UPDATES IN TELUGU FILM INDUSTRY
TAMIL ACTRESS HOT PHOTO SHOOT
http://allyouwants.blogspot.com/2011/08/tamil-actress.html
SOUTH INDIAN HOT ACTRESS PICS
http://allyouwants.blogspot.com/2011/08/hot-actress.html
DEEPIKA PADUKONE IN DUM MARO DUM MOVIE
http://allyouwants.blogspot.com/2011/08/deepika-in-dum-maro-dum.html
PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html

PRIYAMANI SPICY PHOTOS IN COW GIRL
http://allyouwants.blogspot.com/2011/02/priyamani-spicy-photo-shoot-cow-girl.html
KAJAL HOT PHOTOS IN SAREE
http://allyouwants.blogspot.com/2011/06/kajal-very-spice-pics.html

2346. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 16:19:29 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4lbeggqr1@news.jpl.nasa.gov>
Source record: 3799

On 9/8/2011 10:43 PM, Dave Platt wrote:
>>> You could build a very nice full duplex repeater on a single
>>> frequency that way.
>>
>> Yes, except that the ARRL has decided to only petition for a waver for
>> single time slot TDMA, which can't be used for a repeater.
>>
>> You're scheme would certainly work, and I too am wondering why nobody
>> has bothered to do it. Possibly because nobody really wants full
>> duplex (with echo, reverb, feedback, etc).
Not so much full duplex, but single frequency half duplex, with
negligible time delay (implying <100ms frame time) between Rx and Tx.

>
> I wonder whether you may not also have to be really careful with your
> transceiver/receiver switching design. You'll really need to be able
> to trust (and drive) those PIN diodes properly... goof up on even a
> single time-slice and you could put enough TX power into your receiver
> to turn its front end into a pile of smouldering char in a millisecond.
>
> This isn't a problem with normal split-frequency repeaters, thanks to
> the isolation in the duplexer cans.
>
> Do any of the commercial TDMA systems use the same frequencies for
> base->mobile and mobile->base? My recollection is that TDMA cellphone
> systems operate with split uplink/downlink frequencies.
>

Sure.. 802.11 is half duplex on a single channel, for instance.

Lots and lots of radars have fast and reliable T/R switching at pretty
much any frequency you care to name from DC to light.

TDMA cellphone uses split bands probably because it was on top of
existing AMPS systems. There is also a frequency allocation issue (e.g.
no need for new licensing). Having separate forward and reverse bands
also helps with frequency reuse and near-far issues. I hardly think
that hams are going to carpet the country with repeaters to the extent
that cell sites do.

2347. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 16:24:00 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4lbmv$h82$1@news.jpl.nasa.gov>
Source record: 3800

On 9/8/2011 10:05 PM, Noskosteve wrote:
> On Aug 31, 11:38 am, Jim Lux<james.p....@jpl.nasa.gov> wrote:
>> One wonders why someone isn't pushing for a digital TDMA scheme for
>> amateurs. You could build a very nice full duplex repeater on a single
>> frequency that way. ...
>>
>> No filtering, much less intermod issues in multi station at onee site
>> systems... all kinds of good comes of it.
>>
>> Digital schemes on HF to replace SSB I can see having real trouble (the
>> biggest is the lack of a "party line" capability, the other is the long
>> propagation delay on HF paths), but on VHF and up FM, you already have a
>> "one person talks at a time" by virtue of the standard FM demodulator.
>
> Uhhh. It's been a long time since I worked on such a system (1975 I
> think),
> but IIR the prop delay through space for moderate distances kills the
> idea.
> Rough calculations gives a round trip delay, at 10 miles from the
> repeater,
> of about 0.1 ms. For two stations at that distance that's 0.1 ms not
> available for sampling, bit width and processing.

You don't need that big a guard time if you keep track of how far you
are from the repeater and adjust your timing appropriately (that's what
a lot of systems do, and it's what was used for coarse position finding
in the phase 1 E-911 systems). That was an ordeal in 1980s to
implement, but today, it's in the piece of cake area, at least from an
implementation complexity and hardware standpoint. There is probably off
the shelf IP for it, too.

Keeping the BW down
> also needs
> rise and fall time as well as guard times. It added up quiclky back
> then.
> The vocoder becomes very important to reduce the data rate.

Yes, but on the other hand, standard cellphones use 8kbps and while the
quality isn't great, it's good enough. Of course, that gets us into that
whole "any decent codec is tied up with licensing problems" rat's nest.

2348. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 17:44:48 UTC
From: you <you@shadows.orgs>
Message-ID: <you-2C59B0.09444112092011@news.starband.net>
Source record: 3797

In article <4e6ba887$0$44209$4fafbaef@reader1.news.tin.it>,
"Antonio Vernucci" <vernucci@tin.it> wrote:

> I did not describe the RF ground because I consider it not relevant to my
> question.
>
> Anyway, the ground system is formed by 64 quarter-wave radials.
>
> 73
>
> Tony I0JX
> Rome, Italy

Until the RF Ground is described, You can't make any definitive
decisions, about any kind of Marconi Antenna, no matter how it is feed.
This is common problem with many, less than educated, Hams, that try and
design Antennas Systems for HF. Most of the Losses in these designs are
in the RF Ground System, and not in the Radiators. Just Say'en....
YMMV...

2349. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 17:59:50 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6e4893$0$44198$4fafbaef@reader1.news.tin.it>
Source record: 3798

> Until the RF Ground is described, You can't make any definitive
> decisions, about any kind of Marconi Antenna, no matter how it is feed.
> This is common problem with many, less than educated, Hams, that try and
> design Antennas Systems for HF. Most of the Losses in these designs are
> in the RF Ground System, and not in the Radiators. Just Say'en....
> YMMV...

I am not interested in knowing the overall losses and making decisions on my antenna . I am just interested to know whether someone has experience on the effect of very high voltage on the antenna terminal. And for that very purpose the ground system is not relevant.

No useful answer received so far.

The problem of this newsgroup is that people not knowing how to answer a specific question, reply to other questions, just to write something.

73

Tony I0JX
Rome, Italy

2350. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 18:33:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bnjs67hq86ddl0b5ehvmjbv08pbranruqa@4ax.com>
Source record: 3651

On Mon, 12 Sep 2011 19:59:50 +0200, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>No useful answer received so far.

Hi Antonio,

Then, it would appear, after your having discarded technical points
curiously you want to be validated for thinking your antenna is lossy.

It will be hard to do that without your evidence (back of the envelope
computation does not qualify) that is contrary to everyone's
experience.

73's
Richard Clark, KB7QHC

2351. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 19:03:53 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <n1ls671s5koha67dp2d5o8hp8g3g533hds@4ax.com>
Source record: 3652

On Mon, 12 Sep 2011 09:19:29 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Not so much full duplex, but single frequency half duplex, with
>negligible time delay (implying <100ms frame time) between Rx and Tx.

Most of the delay will not come from the flight time or mux switching.
It will come from the necessary audio compression. It won't work
without audio compression, which means that some types of
uncompressible pre-randomized data is not going to work (no big deal).
Also, the more compression, the longer the latency.

>TDMA cellphone uses split bands probably because it was on top of
>existing AMPS systems.

Yep. The problem was that TDMA (IS-54/IS-136) had to be compatible
with the then existing analog cell systems. Therefore, all early TDMA
phones had to offer analog compatibility. Digital only phones weren't
available until about 2003.

There's also little justification for making the change. It will not
double the number of available channels as some pundits have
suggested. Since the return audio now has to be sqeezed into the
previously transmit only channel, the number of users per channel is
cut in half. The result is no capacity change.

>There is also a frequency allocation issue (e.g.
>no need for new licensing). Having separate forward and reverse bands
>also helps with frequency reuse and near-far issues. I hardly think
>that hams are going to carpet the country with repeaters to the extent
>that cell sites do.

I've looked into butchering cellular handsets into something usable on
ham radio. I have internals on some of the old Motorola flip phones
and bag phones and could probably modify the firmware sufficiently to
turn it into a conventional radios. The fatal flaw was the fixed
45MHz T/R offset. There were simply too many components that would
need to be replaced in order to operate on the smaller offset
available to hams, or on simplex. In addition, it's usually fairly
easy to go down in frequency, but the phones would require going up
from the 850MHz cellular bands to the 915MHz ham band. I gave up on
the idea.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com

Skype: JeffLiebermann AE6KS 831-336-2558

2352. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 19:16:48 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <9uls67tbkhuff2082b0rjc799b2oi54cos@4ax.com>
Source record: 3653

On Mon, 12 Sep 2011 09:24:00 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>You don't need that big a guard time if you keep track of how far you
>are from the repeater and adjust your timing appropriately (that's what
>a lot of systems do, and it's what was used for coarse position finding
>in the phase 1 E-911 systems). That was an ordeal in 1980s to
>implement, but today, it's in the piece of cake area, at least from an
>implementation complexity and hardware standpoint. There is probably off
>the shelf IP for it, too.

Yep. The problem was that GSM had a built in distance limit at about
35 km. Any furthur and the timing would get mangled. That was
changed with adaptive timing:
<http://en.wikipedia.org/wiki/Timing_advance>

> Keeping the BW down
>> also needs
>> rise and fall time as well as guard times. It added up quiclky back
>> then.
>> The vocoder becomes very important to reduce the data rate.
>
>Yes, but on the other hand, standard cellphones use 8kbps and while the
>quality isn't great, it's good enough. Of course, that gets us into that
>whole "any decent codec is tied up with licensing problems" rat's nest.

Codecs are incredibly important. A 1% increase in channel capacity
translates to adding thousands of additional users to a system. Nobody
uses fixed rate codecs these daze. The current fashion is variable
bandwidth schemes, such as EVRC, SMV, 4GV, etc (for CDMA). The
challenge is to get something that sounds decent with low latency, but
doesn't blow up with weak signals, high error rates, lousy SNR, etc.
When someone succeeds, it's immediately patented, creating the
predicable licensing mess.

Drivel: I once worked on a codec that required the receiving end to
have a library of the speakers phoneme sounds in storage. That
drastically reduced the amound of information that needed to be sent.
It would have worked and possibly sold, except that it was far too
easy to impersonate someone by simply switching phoneme libraries. It
was a fun project while it lasted.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com

Skype: JeffLiebermann AE6KS 831-336-2558

2353. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-12 19:17:34 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4llsd$3su$1@news.jpl.nasa.gov>
Source record: 3654

On 9/9/2011 12:10 PM, Antonio Vernucci wrote:
> For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a
> fairly big HF yagi on its top). The home-made tuner, placed at the tower
> base, has a motorized variable vacuum capacitor in series and a
> (properly selected) fixed capacitor in parallel. I can so remotely tune
> the variable capacitor across the 3500 - 3800 kHz range obtaining a
> perfect match to 50-ohm everywhere in the band. The antenna works fine
> and I receive good reports.
>
> The only thing which worries me a bit is the very high voltage that
> develops at the antenna end (about 6,900 Vrms at 3.500 MHz with 2kW
> applied, growing to about 8,600 Vrms at 3.800 MHz). I am not sure
> whether such high voltage could be a source of significant losses.

Generally, your losses are going to be IR losses. High voltage implies
low current, and low loss.

However, when you start talking kilovolts, you might have significant
loss from corona discharge.

>
> To solve my doubt, I started by precisely measuring the capacitance of
> the tuner capacitors, and I could then easily calculate the antenna
> impedance at 3.500 MHz, which resulted to be (18.2 + j 656) ohm.
>

That's the feed point Z of the basic radiator? or of the whole
assembly, including the shunt feed wire/tube?

> ABOUT CURRENT
> With 2 kW applied, one can easily determine that the RF current flowing
> through the antenna is about 10.5A, quite higher than the 6.3A figure
> one would get should the antenna resistance be 50 ohm instead of 18.2
> ohm. So, I must expect some more loss in the conductors due to the
> fairly high current.

Yes, that seems reasonable, but what conductor is that 10 amps flowing
in? What is its AC resistance at 3 MHz?

>
> ABOUT VOLTAGE
> The 10.5 A current flowing through the big 656 ohm antenna reactance
> causes the antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz.
> Touching the wire with a (well insulated) screwdriver, you would see a
> nice Tesla-like arc. I am wondering whether such a high voltage could
> constitute, by itself, a source of extra loss. Please note that the wire

> coming down from the tower is connected directly to the vacuum capacitor
> terminal, with no stand-off insulator. So, I do not see a place where
> power can get dissipated due to the high RFvoltage, other than perhaps
> in the humid air (?).

Corona is definitely a source of loss. Humidity doesn't change corona
much, but does change leakage across insulators (i.e. the crackling one
hears under HV power lines on damp mornings).

However, is it a *significant* source of loss? How much stuff is at the
HV? What's the actual surface field? (Running a screwdriver near it
perturbs the field)

>
> I could probably avoid this situation by changing the tap height on the
> tower, but I would run the risk of not being any longer able to tune
> across the whole 3500 - 3800 kHz band adjusting one of the two
> capacitors, and not both.
>
> Any idea on whether the high RF voltage present on the antenna could
> cause some significant loss?

HV loss is hard to estimate. You could make your shunt wire a shunt
tube or rod and basically eliminate corona (A rule of thumb is that
10-15 kV/cm radius will have virtually no corona.. so for your 6kV, a
1cm diameter tube is in the right ballpark) Skin depth at 3.5 MHz in
Aluminum is .043mm, and the usual rule of thumb is to make the tubing
wall thickness 3-5 skin depths. 0.12-0.20 mm seems about right. Copper
could be thinner wall (skin depth is less)

I'd worry more about loss across dirty insulators.
And even more about IR losses.

>
> Thanks and 73
>
> Tony I0JX
> Rome, Italy
>

2354. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 03:17:05 UTC
From: n1ald <cybrinjn@gmail.com>
Message-ID: <4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com>
Source record: 3655

Wait a minute. What this guy is selling is a streaming audio app, not a "shortwave radio" program.

2355. Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 04:38:47 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4mmop$fn4$1@dont-email.me>
Source record: 3656

"n1ald" <cybrinjn@gmail.com> wrote in message
news:4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com...
> Wait a minute. What this guy is selling is a streaming audio app, not a
> "shortwave radio" program.

Correct. The screen display is a "fake" radio. Tsk, tsk!

2356. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 10:58:20 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <bea8f$4e6f3634$5355cc82$29001@cache110.multikabel.net>
Source record: 3657

El 09-09-11 21:10, Antonio Vernucci escribiï¿½:
> For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a
> fairly big HF yagi on its top). The home-made tuner, placed at the
> tower base, has a motorized variable vacuum capacitor in series and a
> (properly selected) fixed capacitor in parallel. I can so remotely
> tune the variable capacitor across the 3500 - 3800 kHz range obtaining
> a perfect match to 50-ohm everywhere in the band. The antenna works
> fine and I receive good reports.
>
> The only thing which worries me a bit is the very high voltage that
> develops at the antenna end (about 6,900 Vrms at 3.500 MHz with 2kW
> applied, growing to about 8,600 Vrms at 3.800 MHz). I am not sure
> whether such high voltage could be a source of significant losses.
>
> To solve my doubt, I started by precisely measuring the capacitance of
> the tuner capacitors, and I could then easily calculate the antenna
> impedance at 3.500 MHz, which resulted to be (18.2 + j 656) ohm.
>
> ABOUT CURRENT
> With 2 kW applied, one can easily determine that the RF current
> flowing through the antenna is about 10.5A, quite higher than the 6.3A
> figure one would get should the antenna resistance be 50 ohm instead
> of 18.2 ohm. So, I must expect some more loss in the conductors due to
> the fairly high current.
>
> ABOUT VOLTAGE
> The 10.5 A current flowing through the big 656 ohm antenna reactance
> causes the antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz.
> Touching the wire with a (well insulated) screwdriver, you would see a
> nice Tesla-like arc. I am wondering whether such a high voltage could
> constitute, by itself, a source of extra loss. Please note that the
> wire coming down from the tower is connected directly to the vacuum
> capacitor terminal, with no stand-off insulator. So, I do not see a
> place where power can get dissipated due to the high RFvoltage, other
> than perhaps in the humid air (?).
>
> I could probably avoid this situation by changing the tap height on
> the tower, but I would run the risk of not being any longer able to
> tune across the whole 3500 - 3800 kHz band adjusting one of the two
> capacitors, and not both.
>
> Any idea on whether the high RF voltage present on the antenna could
> cause some significant loss?
>

> Thanks and 73
>
> Tony I0JX
> Rome, Italy
>

Hello Tony,

It is not the voltage that will introduce loss (as the field lines will go into air and frequency is low), but it is (corona) discharge. Whether this occurs, depends on presence of sharp edges and especially sharp (double curved) surfaces with small radius, think of bolts, threaded rods, etc that point away from the tower into the air.

A thin end of an antenne element can also cause breakdown as it points far into the air (away from other solid structures) and the voltage maximum will be at the elements of your HF antenna.

In case of your > 8 kVrms (that is 12 kVp), an antenna element with 10mm diameter and spherical (smooth) end may result in 2.4kVp/mm at the end. If the end of the element is just straight (just cut aluminium), you will exceed 3kVp/mm and corona will occur.

If (corona) discharge occurs, you will notice a sudden change in VSWR with increasing power.

--
Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

2357. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 15:06:18 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6f7169$0$44201$4fafbaef@reader1.news.tin.it>
Source record: 3658

> HV loss is hard to estimate. You could make your shunt wire a shunt tube or
> rod and basically eliminate corona (A rule of thumb is that 10-15 kV/cm radius
> will have virtually no corona.. so for your 6kV, a 1cm diameter tube is in the
> right ballpark) Skin depth at 3.5 MHz in Aluminum is .043mm, and the usual
> rule of thumb is to make the tubing wall thickness 3-5 skin depths. 0.12-0.20
> mm seems about right. Copper could be thinner wall (skin depth is less)

I presume that the corona effect should be visible at dark. So far I have seen none, but we had not a single day of rain since I mounted this antenna (incredible summer season...). So, I must verify when rain will come, in a few days from now they say. Or do you think that corona may not be visible?

I am using a 4-mm diameter wire so, if I will really have corona problems, I could insert the (vertical) wire into a 1-cm aluminum tube connected at the very bottom of the wire (i.e. at the antenna feed point). Probably a 2-meter long tube could be sufficient (RF voltage gradually diminishes getting away from the antenna feed point).

73

Tony I0JX

2358. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 15:30:58 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6f7731$0$44208$4fafbaef@reader1.news.tin.it>
Source record: 3659

Hi Wim,

despite my wire is only 4mm in diameter, SWR does not vary at all applying a steady full-power carrier (not even some small oscillations of the reflected power meter needle). I then presume that no big corona effect takes place (also because I see no corona light at dark). I am not sure whether a light corona effect (i.e neither visible nor influencing SWR) could take place, but if so I presume loss would anyway be very low.

I will check again under rain conditions (test not done so far), but I am not sure whether rain increases susceptibility to corona, with respect to hot summer days (with umidity close to 80% sometimes). Any idea at that regard?

73

Tony I0JX

> Hello Tony,
>
> It is not the voltage that will introduce loss (as the field lines will go
> into air and frequency is low), but it is (corona) discharge. Whether this
> occurs, depends on presence of sharp edges and especially sharp (double
> curved) surfaces with small radius, think of bolts, threaded rods, etc that
> point away from the tower into the air.
>
> A thin end of an antenne element can also cause breakdown as it points far
> into the air (away from other solid structures) and the voltage maximum will
> be at the elements of your HF antenna.
>
> In case of your > 8 kVrms (that is 12 kVp), an antenna element with 10mm
> diameter and spherical (smooth) end may result in 2.4kVp/mm at the end. If the
> end of the element is just straight (just cut aluminium), you will exceed
> 3kVp/mm and corona will occur.
>
> If (corona) discharge occurs, you will notice a sudden change in VSWR with
> increasing power.
>
>
> --
> Wim
> PA3DJS
> www.tetech.nl
> Please remove abc first in case of PM

2359. streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 15:39:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4ntf0$8e1$2@news.jpl.nasa.gov>
Source record: 3662

On 9/12/2011 9:38 PM, Sal wrote:
> "n1ald"<cybrinjn@gmail.com> wrote in message
> news:4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com...
>> Wait a minute. What this guy is selling is a streaming audio app, not a
>> "shortwave radio" program.
>
> Correct. The screen display is a "fake" radio. Tsk, tsk!
>
>

Oddly, I have been looking for a simple streaming audio app (to bring back audio from remote receivers via 802.11 for a antenna measurement project)... This one is clearly not it, but what else is out there.

2360. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 15:40:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4nti2$8e1$3@news.jpl.nasa.gov>
Source record: 3663

On 9/13/2011 8:06 AM, Antonio Vernucci wrote:
>> HV loss is hard to estimate. You could make your shunt wire a shunt
>> tube or rod and basically eliminate corona (A rule of thumb is that
>> 10-15 kV/cm radius will have virtually no corona.. so for your 6kV, a
>> 1cm diameter tube is in the right ballpark) Skin depth at 3.5 MHz in
>> Aluminum is .043mm, and the usual rule of thumb is to make the tubing
>> wall thickness 3-5 skin depths. 0.12-0.20 mm seems about right. Copper
>> could be thinner wall (skin depth is less)
>
> I presume that the corona effect should be visible at dark. So far I
> have seen none, but we had not a single day of rain since I mounted this
> antenna (incredible summer season...). So, I must verify when rain will
> come, in a few days from now they say. Or do you think that corona may
> not be visible?

Nope.. you can't usually see the corona discharge. The professionals
use a special camera with a narrow band solar blind filter.

>
> I am using a 4-mm diameter wire so, if I will really have corona
> problems, I could insert the (vertical) wire into a 1-cm aluminum tube
> connected at the very bottom of the wire (i.e. at the antenna feed
> point). Probably a 2-meter long tube could be sufficient (RF voltage
> gradually diminishes getting away from the antenna feed point).

Sure..

2361. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 16:08:41 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6f8009$0$5482$bd467cd0@news.dslextreme.com>
Source record: 3660

Antonio Vernucci wrote:

> Hi Wim,
>
> despite my wire is only 4mm in diameter, SWR does not vary at all applying a
> steady full-power carrier (not even some small oscillations of the reflected
> power meter needle). I then presume that no big corona effect takes place (also
> because I see no corona light at dark). I am not sure whether a light corona
> effect (i.e neither visible nor influencing SWR) could take place, but if so I
> presume loss would anyway be very low.
>
> I will check again under rain conditions (test not done so far), but I am not
> sure whether rain increases susceptibility to corona, with respect to hot summer
> days (with umidity close to 80% sometimes). Any idea at that regard?
>
What happens if you move the slant-wire up or down on the tower?

2362. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 16:46:52 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <89cb744c-497d-4995-8fa4-0b3a5539d1a3@s12g2000yqm.googlegroups.com>
Source record: 3661

On Sep 9, 3:10 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
> For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a fairly big
> HF yagi on its top). The home-made tuner, placed at the tower base, has a
> motorized variable vacuum capacitor in series and a (properly selected) fixed
> capacitor in parallel. I can so remotely tune the variable capacitor across the
> 3500 - 3800 kHz range obtaining a perfect match to 50-ohm everywhere in the
> band. The antenna works fine and I receive good reports.
>
> The only thing which worries me a bit is the very high voltage that develops at
> the antenna end (about 6,900 Vrms at 3.500 MHz with 2kW applied, growing to
> about 8,600 Vrms at 3.800 MHz). I am not sure whether such high voltage could be
> a source of significant losses.
>
> To solve my doubt, I started by precisely measuring the capacitance of the tuner
> capacitors, and I could then easily calculate the antenna impedance at 3.500
> MHz, which resulted to be (18.2 + j 656) ohm.
>
> ABOUT CURRENT
> With 2 kW applied, one can easily determine that the RF current flowing through
> the antenna is about 10.5A, quite higher than the 6.3A figure one would get
> should the antenna resistance be 50 ohm instead of 18.2 ohm. So, I must expect
> some more loss in the conductors due to the fairly high current.
>
> ABOUT VOLTAGE
> The 10.5 A current flowing through the big 656 ohm antenna reactance causes the
> antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz. Touching the wire with
> a (well insulated) screwdriver, you would see a nice Tesla-like arc. I am
> wondering whether such a high voltage could constitute, by itself, a source of
> extra loss. Please note that the wire coming down from the tower is connected
> directly to the vacuum capacitor terminal, with no stand-off insulator. So, I do
> not see a place where power can get dissipated due to the high RFvoltage, other
> than perhaps in the humid air (?).
>
> I could probably avoid this situation by changing the tap height on the tower,
> but I would run the risk of not being any longer able to tune across the whole
> 3500 - 3800 kHz band adjusting one of the two capacitors, and not both.
>
> Any idea on whether the high RF voltage present on the antenna could cause some
> significant loss?
>
> Thanks and 73
>
> Tony I0JX
> Rome, Italy

I would think the losses as a result of 10 amperes current at the feed point not to be excessive unless your shunt feed is made of small wire. This is usually not the case if only designed for sound mechanical integrity.

Jimmie

2363. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 16:51:48 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <75f85582-d556-4dd7-96d3-cb69ae974c7a@u20g2000yqj.googlegroups.com>
Source record: 3664

On Sep 9, 3:10 pm, "Antonio Vernucci" <vernu...@tin.it> wrote:
> For 75 and 80 meters, I use a shunt-fed tower (58 feet high, with a fairly big
> HF yagi on its top). The home-made tuner, placed at the tower base, has a
> motorized variable vacuum capacitor in series and a (properly selected) fixed
> capacitor in parallel. I can so remotely tune the variable capacitor across the
> 3500 - 3800 kHz range obtaining a perfect match to 50-ohm everywhere in the
> band. The antenna works fine and I receive good reports.
>
> The only thing which worries me a bit is the very high voltage that develops at
> the antenna end (about 6,900 Vrms at 3.500 MHz with 2kW applied, growing to
> about 8,600 Vrms at 3.800 MHz). I am not sure whether such high voltage could be
> a source of significant losses.
>
> To solve my doubt, I started by precisely measuring the capacitance of the tuner
> capacitors, and I could then easily calculate the antenna impedance at 3.500
> MHz, which resulted to be (18.2 + j 656) ohm.
>
> ABOUT CURRENT
> With 2 kW applied, one can easily determine that the RF current flowing through
> the antenna is about 10.5A, quite higher than the 6.3A figure one would get
> should the antenna resistance be 50 ohm instead of 18.2 ohm. So, I must expect
> some more loss in the conductors due to the fairly high current.
>
> ABOUT VOLTAGE
> The 10.5 A current flowing through the big 656 ohm antenna reactance causes the
> antenna RF voltage to get up to 6,900 Vrms at 3.500 MHz. Touching the wire with
> a (well insulated) screwdriver, you would see a nice Tesla-like arc. I am
> wondering whether such a high voltage could constitute, by itself, a source of
> extra loss. Please note that the wire coming down from the tower is connected
> directly to the vacuum capacitor terminal, with no stand-off insulator. So, I do
> not see a place where power can get dissipated due to the high RFvoltage, other
> than perhaps in the humid air (?).
>
> I could probably avoid this situation by changing the tap height on the tower,
> but I would run the risk of not being any longer able to tune across the whole
> 3500 - 3800 kHz band adjusting one of the two capacitors, and not both.
>
> Any idea on whether the high RF voltage present on the antenna could cause some
> significant loss?
>
> Thanks and 73
>
> Tony I0JX
> Rome, Italy

Please forgive me but it seems a little odd that someone who can make the calculations you have made can not compute the IR losses in the feed. You are almost there.

Jimmie

Jimmie

2364. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 17:31:34 UTC
From: dave <dave@dave.dave>
Message-ID: <4e6f9376$0$5507$bd467cd0@news.dslextreme.com>
Source record: 3665

Jim Lux wrote:

> On 9/12/2011 9:38 PM, Sal wrote:
>> "n1ald"<cybrinjn@gmail.com> wrote in message
>> news:4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com...
>>> Wait a minute. What this guy is selling is a streaming audio app, not a
>>> "shortwave radio" program.
>>
>> Correct. The screen display is a "fake" radio. Tsk, tsk!
>>
>>
>
> Oddly, I have been looking for a simple streaming audio app (to bring
> back audio from remote receivers via 802.11 for a antenna measurement
> project)... This one is clearly not it, but what else is out there.

http://icecast.org/

2365. Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 17:40:37 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <j4o4im$7kk$1@ra.nrl.navy.mil>
Source record: 3666

Hello, all. I came across an article in one of my science mags in which some researchers had discovered a method to coax more bandwidth out of a given portion of the EM spectrum by "twisting" radio waves together. Nothing more technical than that in the article. Well, I managed to find one the author's papers on the subject online:

http://arxiv.org/pdf/1107.2348v2

If this technique is viable, I'm wondering why it is only now being contemplated. Note the "twisted parabolic antenna" (Fig. 3A) on p.16. Of course this makes me want to do some experiments in the ham bands. (I hope this doesn't turn out to be another CFA-like pursuit).
Sincerely, and 73s from N4GGO,

--
J. B. Wood e-mail: arl_123234@hotmail.com

2366. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 17:53:36 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6f98a0$0$15661$4fafbaef@reader2.news.tin.it>
Source record: 3667

Hi Jimmie,

I am not sure of what you mean to say.

With regard to the IR loss (by the way, I presume that "IR" means I squared times R), there is little difficulty to estimate them once you know the RF current.

But my point was to estimate any extra losses caused by the very high voltage that develops at the antenna terminal. I would not know how to estimate those.

73

Tony I0JX

Please forgive me but it seems a little odd that someone who can make the calculations you have made can not compute the IR losses in the feed. You are almost there.

Jimmie

Jimmie

2367. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 17:55:48 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6f9923$0$15661$4fafbaef@reader2.news.tin.it>
Source record: 3668

> Nope.. you can't usually see the corona discharge. The professionals use a
> special camera with a narrow band solar blind filter.

That is interesting.

But I presume that, increasing voltage, at a certain point the corona effect becomes visible.

73

Tony I0JX

2368. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 18:21:22 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <i07v675h23isfskva33d3u2b4548nco95l@4ax.com>
Source record: 3669

On Tue, 13 Sep 2011 08:39:13 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Oddly, I have been looking for a simple streaming audio app (to bring
>back audio from remote receivers via 802.11 for a antenna measurement
>project)... This one is clearly not it, but what else is out there.

Skype. It's commonly used to deliver the audio portion of HRD (Ham
Radio Deluxe). Install the remote end with your favorite operating
system and set Skype to auto-answer any incoming calls from your
account. As soon as you connect, you get audio, with fairly low
latency.

If you want to roll your own, there's:
<http://www.speakfreely.org>

There's also:
<http://umediaserver.net/umediaserver/download.html>
There are plenty of other streaming audio apps available. However, be
careful as many of them are designed for streaming music or video, and
therefore have enormous latency. I vaguely recall my adventure with
Microsloth Media Encoder 9 and it's 45 second delay.

If you want multiple channels of audio, better bandwidth, or have some
exotic requirements, you'll need to supply more detail.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2369. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 18:28:22 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6fa0c5$0$15668$4fafbaef@reader2.news.tin.it>
Source record: 3671

"J.B. Wood" <john.wood@nrl.navy.mil> ha scritto nel messaggio
news:j4o4im$7kk$1@ra.nrl.navy.mil...
> Hello, all. I came across an article in one of my science mags in which some
> researchers had discovered a method to coax more bandwidth out of a given
> portion of the EM spectrum by "twisting" radio waves together. Nothing more
> technical than that in the article. Well, I managed to find one the author's
> papers on the subject online:
>
> http://arxiv.org/pdf/1107.2348v2
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> If this technique is viable, I'm wondering why it is only now being
> contemplated. Note the "twisted parabolic antenna" (Fig. 3A) on p.16.
> Of course this makes me want to do some experiments in the ham bands.
> (I hope this doesn't turn out to be another CFA-like pursuit). Sincerely, and
> 73s from N4GGO,

I personally know one of the most committed researcher working on the twisted
waves.

No doubt on the theoretical background, but significant doubts about practical
applications of that technique (but that is just my opinion).

From what I know the experiment they carried out in Venice last May was not
engineered in a such a way to permit confirming times-4 multiplication of the
radio link capacity (times-2 due to the use of orthogonal polarizations, and
another times-2 due to the twisted waves), see
http://lighthouseinthesky.blogspot.com/2011/07/radio-vortices.html

73

Tony I0JX

2370. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 18:32:56 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7642a$4e6fa0c0$5355cc82$28137@cache110.multikabel.net>
Source record: 3670

El 13-09-11 17:30, Antonio Vernucci escribiï¿½:
> Hi Wim,
>
> despite my wire is only 4mm in diameter, SWR does not vary at all
> applying a steady full-power carrier (not even some small oscillations
> of the reflected power meter needle). I then presume that no big
> corona effect takes place (also because I see no corona light at
> dark). I am not sure whether a light corona effect (i.e neither
> visible nor influencing SWR) could take place, but if so I presume
> loss would anyway be very low.
>
> I will check again under rain conditions (test not done so far), but I
> am not sure whether rain increases susceptibility to corona, with
> respect to hot summer days (with umidity close to 80% sometimes). Any
> idea at that regard?
>
> 73
>
> Tony I0JX
>
>> Hello Tony,
>>
>> It is not the voltage that will introduce loss (as the field lines
>> will go into air and frequency is low), but it is (corona)
>> discharge. Whether this occurs, depends on presence of sharp edges
>> and especially sharp (double curved) surfaces with small radius,
>> think of bolts, threaded rods, etc that point away from the tower
>> into the air.
>>
>> A thin end of an antenne element can also cause breakdown as it
>> points far into the air (away from other solid structures) and the
>> voltage maximum will be at the elements of your HF antenna.
>>
>> In case of your > 8 kVrms (that is 12 kVp), an antenna element with
>> 10mm diameter and spherical (smooth) end may result in 2.4kVp/mm at
>> the end. If the end of the element is just straight (just cut
>> aluminium), you will exceed 3kVp/mm and corona will occur.
>>
>> If (corona) discharge occurs, you will notice a sudden change in
>> VSWR with increasing power.
>>
>>
>> --
>> Wim

>> PA3DJS
>> www.tetech.nl
>> Please remove abc first in case of PM
>

Hello Tony,

As long as your wire with D=4mm is not close to other structures (say 0.25...0.5m), you will not exceed 1 kVp/mm when the wire itself is carrying 12kVp. You still have some margin before getting close to 3 kV/mm.

At ground level, influence of HF frequency on dielectric breakdown voltage of air is negligible. If the wire is coated, the diameter increases, hence reducing the E-field at the plastic-air interface.

When VSWR doesn't, change (with increasing power), the loss due to corona discharge will be minimal. Of course when you lose 10W from 2kW, you will not notice this probably. However if you get a discharge between metal and plastic insulation, the plastic will fail in the end (due to spark erosion).

conducting Droplets (rain) do reduce the breakdown voltage as it distorts the field. This introduces 'hot spots'. Unfortunately I don't have data on this.

I could imagine that moisture/water layer on the wire would introduces some loss (as you get a current through the moisture layer). But this is not due to corona effect.

It can be calculated, as you know the voltage and you can calculate the capacitance to ground (so you know the capacitive current that "leaves" the wire.

--
Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

2371. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 19:30:45 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e6faf63$0$44198$4fafbaef@reader1.news.tin.it>
Source record: 3672

> Hello Tony,
>
> As long as your wire with D=4mm is not close to other structures (say
> 0.25...0.5m), you will not exceed 1 kVp/mm when the wire itself is carrying
> 12kVp. You still have some margin before getting close to 3 kV/mm.
>
> At ground level, influence of HF frequency on dielectric breakdown voltage of
> air is negligible. If the wire is coated, the diameter increases, hence
> reducing the E-field at the plastic-air interface.
>
> When VSWR doesn't, change (with increasing power), the loss due to corona
> discharge will be minimal. Of course when you lose 10W from 2kW, you will not
> notice this probably. However if you get a discharge between metal and plastic
> insulation, the plastic will fail in the end (due to spark erosion).
>
> conducting Droplets (rain) do reduce the breakdown voltage as it distorts the
> field. This introduces 'hot spots'. Unfortunately I don't have data on this.
>
> I could imagine that moisture/water layer on the wire would introduces some
> loss (as you get a current through the moisture layer). But this is not due to
> corona effect.
>
> It can be calculated, as you know the voltage and you can calculate the
> capacitance to ground (so you know the capacitive current that "leaves" the
> wire.
>
>
> --
> Wim
> PA3DJS

Thanks for info. When things go down to the physics level, it is not so easy to understand phaenomena, unless one has specific knowledge on them.

73

Tony I0JX

2372. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 20:22:56 UTC
From: "Helmut Wabnig"
Message-ID: <vrev67pu35cic4uurqrdf484hm315a7it1@4ax.com>
Source record: 3673

On Tue, 13 Sep 2011 13:40:37 -0400, "J.B. Wood"
<john.wood@nrl.navy.mil> wrote:

>Hello, all. I came across an article in one of my science mags in which
>some researchers had discovered a method to coax more bandwidth out of a
>given portion of the EM spectrum by "twisting" radio waves together.
>Nothing more technical than that in the article. Well, I managed to
>find one the author's papers on the subject online:
>
>http://arxiv.org/pdf/1107.2348v2
>
>If this technique is viable, I'm wondering why it is only now being
>contemplated. Note the "twisted parabolic antenna" (Fig. 3A) on p.16.
>Of course this makes me want to do some experiments in the ham bands.
>(I hope this doesn't turn out to be another CFA-like pursuit).
>Sincerely, and 73s from N4GGO,

Looks like an April fool joke to me.

w.

2373. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-13 22:11:12 UTC
From: Sal <sobars@aol.com>
Message-ID: <j4oke7ac1@dont-email.me>
Source record: 3674

"Helmut Wabnig" <hwabnig@.- --- -.dotat> wrote in message
news:vrev67pu35cic4uurqrdf484hm315a7it1@4ax.com...

>
> Looks like an April fool joke to me.
>
> w.

I had the same thought. Some of the math looked OK -- rather basic
statements of some things we know -- but there were some new terms that put
those little cartoon question marks in the space over my head.

Let's wait and see.

2374. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-14 00:52:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <s5tv6793temii8rt5r9b5ajsfp39cibehd@4ax.com>
Source record: 3675

On Tue, 13 Sep 2011 13:40:37 -0400, "J.B. Wood"
<john.wood@nrl.navy.mil> wrote:

>(I hope this doesn't turn out to be another CFA-like pursuit).

I've been hearing presentations of this stuff for 7 or 10 years now -
optical tweezers.

The "vorticity" can be seen in the graphic headed "Figures at a
glance":
http://www.nature.com/nphoton/journal/v5/n6/full/nphoton.2011.81.html?WT.ec_id=NPHOTON-201106#/f1

This is not to speculate about applications in the HF where energies
are many, many decades down from visible light. Where light is
tweezing molecules (very small ones), HF would be vastly
imperceptible. It would seem this reference, then, is gratuitous - a
form of authority inflation.

There are curious contradictions found:
"This novel radio technique allows the implementation of, at least in
principle, an infinite number of channels on one and the same
frequency, even without using polarization or dense coding
techniques."
compared with:
"Already with this setup one can obtain four physically distinct
channels on the same frequency by additionally introducing the use of
polarization, in this case independent from OAM. A further
multiplication of a factor five after the implementation of
multiplexing, yields a total of 20 channels in the same frequency."

Soooo. A special vorticity technique that does not use polarization
(even though they describe it as such) and does not use coding, can
demonstrate novel outcomes when paired with polarization and coding
(for which the outcome is fairly well established).

Why isn't this peer reviewed in EM proceedings?

73's
Richard Clark, KB7QHC

2375. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-14 06:59:16 UTC
From: "Helmut Wabnig"
Message-ID: <vqj0775ib1i9pk16thk7m5eh6c6bu4rm56@4ax.com>
Source record: 3676

On Tue, 13 Sep 2011 17:52:35 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Tue, 13 Sep 2011 13:40:37 -0400, "J.B. Wood"
><john.wood@nrl.navy.mil> wrote:
>
>>(I hope this doesn't turn out to be another CFA-like pursuit).
>
>I've been hearing presentations of this stuff for 7 or 10 years now -
>optical tweezers.
>
>The "vorticity" can be seen in the graphic headed "Figures at a
>glance":
>http://www.nature.com/nphoton/journal/v5/n6/full/nphoton.2011.81.html?WT.ec_id=NPHOTON-20
1106#/f1
>
>This is not to speculate about applications in the HF where energies
>are many, many decades down from visible light. Where light is
>tweezing molecules (very small ones), HF would be vastly
>imperceptible. It would seem this reference, then, is gratuitous - a
>form of authority inflation.
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>There are curious contradictions found:
>"This novel radio technique allows the implementation of, at least in
>principle, an infinite number of channels on one and the same
>frequency, even without using polarization or dense coding
>techniques."
>compared with:
>"Already with this setup one can obtain four physically distinct
>channels on the same frequency by additionally introducing the use of
>polarization, in this case independent from OAM. A further
>multiplication of a factor five after the implementation of
>multiplexing, yields a total of 20 channels in the same frequency."
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>Soooo. A special vorticity technique that does not use polarization
>(even though they describe it as such) and does not use coding, can
>demonstrate novel outcomes when paired with polarization and coding
>(for which the outcome is fairly well established).
>
>Why isn't this peer reviewed in EM proceedings?
>
>73's
>Richard Clark, KB7QHC

Any strong laser beam will trap dust particles and pull them towards
a direction, I do not remember was it towards the light source or away
from it.
I consider that a thermal effect.

The effect is stunning when you see it the first time.
I worked as helper guy for laser shows, and we used Argon lasers
up to 30 watt output. Suddenly some bright spots aligned at the
beam and slowly moved along it. Dust particles in the air,
of a certain size.

w.

2376. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-14 07:20:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0bk077d8tldc684bf0hbjq31n2sonfpf5k@4ax.com>
Source record: 3677

On Wed, 14 Sep 2011 08:59:16 +0200, Helmut Wabnig <hwabnig@.- ---
-.dotat> wrote:

>Any strong laser beam will trap dust particles and pull them towards
>a direction, I do not remember was it towards the light source or away
>from it.
>I consider that a thermal effect.

The tweezing is similar to dielectrophoresis and is possibly, but not probably what you describe. In dielectrophoresis, a normally neutral molecule (water is such an example) still has an electrical dipole. The two ends add up to a neutral whole, but in the face of a non-linear electrical field, the dipole will align along the gradient and the neutral molecule can be electrostatically steered. It is a mechanism of fluidic separation done on a scale of what is called "a laboratory on chip." Panel assays (blood testing for one) are the goal.

Your 30W narrow beam could present a similar situation.

This, of course, has absolutely NOTHING to do with the claims of Vorticity.

The Vorticity effect relies on a similar news-flash that arrived here some months ago about simultaneous reception/transmission on the same frequency = very critical physical antenna geometries in a reflectionless environment.

73's
Richard Clark, KB7QHC

2377. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-14 13:50:52 UTC
From: "Helmut Wabnig"
Message-ID: <t2b177llr5thldjmk9gtac31oi8m3egarp@4ax.com>
Source record: 3678

On Tue, 13 Sep 2011 20:28:22 +0200, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>"J.B. Wood" <john.wood@nrl.navy.mil> ha scritto nel messaggio
>news:j4o4im$7kk$1@ra.nrl.navy.mil...
>> Hello, all. I came across an article in one of my science mags in which some
>> researchers had discovered a method to coax more bandwidth out of a given
>> portion of the EM spectrum by "twisting" radio waves together. Nothing more
>> technical than that in the article. Well, I managed to find one the author's
>> papers on the subject online:
>>
>> http://arxiv.org/pdf/1107.2348v2
>>
>> If this technique is viable, I'm wondering why it is only now being
>> contemplated. Note the "twisted parabolic antenna" (Fig. 3A) on p.16.
>> Of course this makes me want to do some experiments in the ham bands.
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>> 73s from N4GGO,
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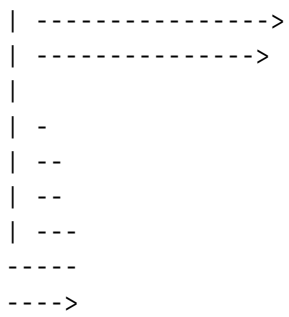
>I personally know one of the most committed researcher working on the twisted
>waves.
>
>No doubt on the theoretical background, but significant doubts about practical
>applications of that technique (but that is just my opinion).
>
>From what I know the experiment they carried out in Venice last May was not
>engineered in a such a way to permit confirming times-4 multiplication of the
>radio link capacity (times-2 due to the use of orthogonal polarizations, and
>another times-2 due to the twisted waves), see
>http://lighthouseinthesky.blogspot.com/2011/07/radio-vortices.html
>
>73
>
>Tony I0JX

When they distort a parabol reflector, they spread the beam.
That's what the Italian clowns forgot when publishing that picture:

http://img824.imageshack.us/img824/1558/paraboldistorted.jpg

A standard parabolic reflector would deliver a nearly parallel beam
from a source at the focus point, with a certain amount
of divergence, of course.
http://en.wikipedia.org/wiki/Parabolic_reflector

Bending the parabol out of shape causes the radio waves
go into all directions and will decrease field strength at the
receiver.



Their only achievement is reduction of signal quality.
The whole thing is an absolute clownerie and a mere hogwash.

w.

2378. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-15 07:51:11 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4e71ae70$0$2499$65785112@news.neostrada.pl>
Source record: 3679

"Helmut Wabnig" <hwabnig@.- --- -.dotat> napisal w wiadomosci
news:vqj0775ib1i9pk16thk7m5eh6c6bu4rm56@4ax.com...
> On Tue, 13 Sep 2011 17:52:35 -0700, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>>On Tue, 13 Sep 2011 13:40:37 -0400, "J.B. Wood"
>><john.wood@nrl.navy.mil> wrote:
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>>glance":
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01106#/f1
>>
>>This is not to speculate about applications in the HF where energies
>>are many, many decades down from visible light. Where light is
>>tweezing molecules (very small ones), HF would be vastly
>>imperceptible. It would seem this reference, then, is gratuitous - a
>>form of authority inflation.
>>
>>There are curious contradictions found:
>>"This novel radio technique allows the implementation of, at least in
>>principle, an infinite number of channels on one and the same
>>frequency, even without using polarization or dense coding
>>techniques."
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>>"Already with this setup one can obtain four physically distinct
>>channels on the same frequency by additionally introducing the use of
>>polarization, in this case independent from OAM. A further
>>multiplication of a factor five after the implementation of
>>multiplexing, yields a total of 20 channels in the same frequency."
>>
>>Soooo. A special vorticity technique that does not use polarization
>>(even though they describe it as such) and does not use coding, can
>>demonstrate novel outcomes when paired with polarization and coding
>>(for which the outcome is fairly well established).
>>
>>Why isn't this peer reviewed in EM proceedings?
>>
>>73's

>>Richard Clark, KB7QHC
>
> Any strong laser beam will trap dust particles and pull them towards
> a direction, I do not remember was it towards the light source or away
> from it.
> I consider that a thermal effect.

Always to the light "source". It is the prove of the wave model of
gravitation.

In the optical tweezers very small bodyies are attracted to the focus point.
After the focus the waves are diverging and works like the Sun.
S*
>
> The effect is stunning when you see it the first time.
> I worked as helper guy for laser shows, and we used Argon lasers
> up to 30 watt output. Suddenly some bright spots aligned at the
> beam and slowly moved along it. Dust particles in the air,
> of a certain size.

Wave model of gravitation is proved in space and air.
S*

2379. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-15 14:10:30 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <U7mdnUSYl-vImu_TnZ2dnUVZ_u-dnZ2d@bright.net>
Source record: 3680

Dear Group: I saw a note in Science News and immediately had the feeling
that it was another scam.
73, Mac N8TT

"J.B. Wood" wrote in message news:j4o4im$7kk$1@ra.nrl.navy.mil...

Hello, all. I came across an article in one of my science mags in which
some researchers had discovered a method to coax more bandwidth out of a
given portion of the EM spectrum by "twisting" radio waves together.
Nothing more technical than that in the article. Well, I managed to
find one the author's papers on the subject online:

http://arxiv.org/pdf/1107.2348v2

If this technique is viable, I'm wondering why it is only now being
contemplated. Note the "twisted parabolic antenna" (Fig. 3A) on p.16.
Of course this makes me want to do some experiments in the ham bands.
(I hope this doesn't turn out to be another CFA-like pursuit).
Sincerely, and 73s from N4GGO,

--
J. B. Wood e-mail: arl_123234@hotmail.com

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

2380. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-15 17:58:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4tecgbpa1@news.jpl.nasa.gov>
Source record: 3681

On 9/13/2011 10:55 AM, Antonio Vernucci wrote:
>> Nope.. you can't usually see the corona discharge. The professionals
>> use a special camera with a narrow band solar blind filter.
>
> That is interesting.
>
> But I presume that, increasing voltage, at a certain point the corona
> effect becomes visible.

Yes.. but that's usually a LONG way from where there's detectable RFI or noise for instance. When you can see visible corona from some meters away, you're probably in the 10s or maybe low 100s of kV range.

For instance, I can run my small 14" Van deGraaff generator with no visible corona in a semi-darkened room, but, judging from the copious ozone production, there's quite a bit of corona (as well as the characteristic crackle sound).

Maybe people have seen noticeable corona at 2-3kV, but that's usually indoors in a dark room, and you're fairly close and well dark adapted. Corona from aged ignition wires (around 15-20 kV) also often visible, in the dark.

2381. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-15 18:18:23 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j4tfhddnt1@news.jpl.nasa.gov>
Source record: 3682

On 9/13/2011 11:21 AM, Jeff Liebermann wrote:
> On Tue, 13 Sep 2011 08:39:13 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:
>
>> Oddly, I have been looking for a simple streaming audio app (to bring
>> back audio from remote receivers via 802.11 for a antenna measurement
>> project)... This one is clearly not it, but what else is out there.
>
> Skype. It's commonly used to deliver the audio portion of HRD (Ham
> Radio Deluxe).

Doesn't skype not support point to point? i.e. you couldn't do it from 192.168.1.10 to 192.168.1.20 on a private network. I thought skype always needs to through the master skype resolver (to do a sort of dynamic dns function)

Install the remote end with your favorite operating
> system and set Skype to auto-answer any incoming calls from your
> account. As soon as you connect, you get audio, with fairly low
> latency.
>
> If you want to roll your own, there's:
> <http://www.speakfreely.org>

Yes.. of course there's that "end of life announcement" from 2004.

I suppose that if it works well enough, one can keep using it forever (gosh, I've got plenty of software from the 90s that I keep using)

>
> There's also:
> <http://umediaserver.net/umediaserver/download.html>
> There are plenty of other streaming audio apps available. However, be
> careful as many of them are designed for streaming music or video, and
> therefore have enormous latency. I vaguely recall my adventure with
> Microsloth Media Encoder 9 and it's 45 second delay.

Yes, and they have all sorts of other features tailored for that kind of application.

All I was looking for was a "virtual audio cable" of some sort. (yes, I know that VAC is actually something else)

> If you want multiple channels of audio, better bandwidth, or have some
> exotic requirements, you'll need to supply more detail.

No, just that kind of simple thing.. send 3kHz BW audio from one PC to another, preferably with an app that is available for all 3 platforms (Win, Mac, *nix)

Something that has a command line like:
sendaudio -i {input audio source} -o 192.168.1.1
recvaudio -i 192.168.1.1 -o {output audio device}

would make me happy.

2382. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-15 19:23:10 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e7250a0$0$15667$4fafbaef@reader2.news.tin.it>
Source record: 3683

> Yes.. but that's usually a LONG way from where there's detectable RFI or noise
> for instance. When you can see visible corona from some meters away, you're
> probably in the 10s or maybe low 100s of kV range.

My antenna voltage gets up to about 12 kV peak.

I will try listening at a short wave receiver placed very close to the antenna and tuned to a vacant frequency slot. Increasing the transmitted carrier power, at the power level at which the corona effect has instated, I should note an abrupt received noise increase. .

73

Tony I0JX

2383. Re: Losses in shunt-fed towers

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-15 20:17:55 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <2c542$4e725c58$5355cc82$30327@cache120.multikabel.net>
Source record: 3684

```
El 13-09-11 20:32, Wimpie escribiï¿½:
> El 13-09-11 17:30, Antonio Vernucci escribiï¿½:
>> Hi Wim,
>>
>> despite my wire is only 4mm in diameter, SWR does not vary at all
>> applying a steady full-power carrier (not even some small oscillations
>> of the reflected power meter needle). I then presume that no big
>> corona effect takes place (also because I see no corona light at
>> dark). I am not sure whether a light corona effect (i.e neither
>> visible nor influencing SWR) could take place, but if so I presume
>> loss would anyway be very low.
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>> I will check again under rain conditions (test not done so far), but I
>> am not sure whether rain increases susceptibility to corona, with
>> respect to hot summer days (with umidity close to 80% sometimes). Any
>> idea at that regard?
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>> 73
>>
>> Tony I0JX
>>
>>> Hello Tony,
>>>
>>> It is not the voltage that will introduce loss (as the field lines
>>> will go into air and frequency is low), but it is (corona)
>>> discharge. Whether this occurs, depends on presence of sharp edges
>>> and especially sharp (double curved) surfaces with small radius,
>>> think of bolts, threaded rods, etc that point away from the tower
>>> into the air.
>>>
>>> A thin end of an antenne element can also cause breakdown as it
>>> points far into the air (away from other solid structures) and the
>>> voltage maximum will be at the elements of your HF antenna.
>>>
>>> In case of your > 8 kVrms (that is 12 kVp), an antenna element with
>>> 10mm diameter and spherical (smooth) end may result in 2.4kVp/mm at
>>> the end. If the end of the element is just straight (just cut
>>> aluminium), you will exceed 3kVp/mm and corona will occur.
>>>
>>> If (corona) discharge occurs, you will notice a sudden change in
>>> VSWR with increasing power.
>>>
>>>
>>> --
```

>>> Wim
>>> PA3DJS
>>> www.tetech.nl
>>> Please remove abc first in case of PM
>>
>
> Hello Tony,
>
> As long as your wire with D=4mm is not close to other structures (say
> 0.25...0.5m), you will not exceed 1 kVp/mm when the wire itself is
> carrying 12kVp. You still have some margin before getting close to 3
> kV/mm.
>
> At ground level, influence of HF frequency on dielectric breakdown
> voltage of air is negligible. If the wire is coated, the diameter
> increases, hence reducing the E-field at the plastic-air interface.
>
> When VSWR doesn't, change (with increasing power), the loss due to
> corona discharge will be minimal. Of course when you lose 10W from
> 2kW, you will not notice this probably. However if you get a discharge
> between metal and plastic insulation, the plastic will fail in the end
> (due to spark erosion).
>
> conducting Droplets (rain) do reduce the breakdown voltage as it
> distorts the field. This introduces 'hot spots'. Unfortunately I don't
> have data on this.
>
> I could imagine that moisture/water layer on the wire would introduces
> some loss (as you get a current through the moisture layer). But this
> is not due to corona effect.
>
> It can be calculated, as you know the voltage and you can calculate
> the capacitance to ground (so you know the capacitive current that
> "leaves" the wire.
>
>

Short note on change in VSWR due to corona.

Many reflectometers use diode rectifiers with relative heavy load. If there is no bias (or the bias is wrong), you will not notice small variations in VSWR, when VSWR = (almost) 1.

If you have a directional coupler you may use your oscilloscope or spectrum analyser as detector device. The oscilloscope (50 Ohms input impedance) you can use to verify if the residual VSWR is because of higher harmonics or real reflection. Of course the spectrum analyzer, oscilloscope with FFT or a receiver (with heavy attenuation) will show you the desired signal directly.

If you match to very low return signal, even a few Watts loss due to corona you can detect at full power. you may need to do this during very quiet weather as small mechanical changes due to elasticity of the construction materials will lead to small changes in reflection coefficient.

--
Wim
PA3DJS
www.tetech.nl
Please remove abc first in case of PM

2384. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-16 01:25:05 UTC
From: tom <news4792@taring.org>
Message-ID: <4e72a571$0$79796$8046368a@newsreader.iphouse.net>
Source record: 3685

On 9/13/2011 10:39 AM, Jim Lux wrote:
> On 9/12/2011 9:38 PM, Sal wrote:
>> "n1ald"<cybrinjn@gmail.com> wrote in message
>> news:4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com...
>>
>>> Wait a minute. What this guy is selling is a streaming audio app, not a
>>> "shortwave radio" program.
>>
>> Correct. The screen display is a "fake" radio. Tsk, tsk!
>>
>>
>
> Oddly, I have been looking for a simple streaming audio app (to bring
> back audio from remote receivers via 802.11 for a antenna measurement
> project)... This one is clearly not it, but what else is out there.

Simplecast.

And it's free, or used to be, if you only need 4 hours at a time. (I own a paid for copy for use in MPLS for extended emergency rebroadcasts of nets.) I and a ham in Maine used to use it to distribute the weekend "432 and Above EME Net". He had minimal bandwidth, I had enough and a Shoutcast (Icecast) server and the net was always less than 4 hours. He connected to me as the stream input and the listeners connected to my site.

Thanks to Shoutcast allowing their system to effectively be cloned they made solutions like mine possible. They even allow these systems to respond as "Shoutcast" when queried.

tom
K0TAR

2385. kajal agarwal latest naked photos

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-16 05:30:23 UTC
From: punithavathi punithavathi <punithapuni143@gmail.com>
Message-ID: <2dcc1bf3-17c7-44ba-99e2-7c7c99285c79@dp9g2000vbb.googlegroups.com>
Source record: 3686

webpage : http://123maza.com/65/dhoby582/

2386. HOT VIDEOS FOR YOUTH AND WORLD SEXIEST GIRLS HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-16 05:44:58 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <1e1529a9-1702-4667-8e0e-1a5c14033eb5@s2g2000vby.googlegroups.com>
Source record: 3687

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

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dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2387. HOT++++SEXY

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-16 06:14:42 UTC
From: "bgft.gyhu@yahoo.com" <bgft.gyhu@yahoo.com>
Message-ID: <c615feac-0541-4fab-9c5b-a6b8a452d5a9@w28g2000yqw.googlegroups.com>
Source record: 3688

SEXY ANTI
http://funtube4u-web.blogspot.com/2011/06/sexy-anty.html
http://funtube4u-web.blogspot.com/2011/06/sexy-anty.html

SANIA MARZA
http://funtube4u-web.blogspot.com/2011/06/sania-mirza-wallpapers.html
http://funtube4u-web.blogspot.com/2011/06/sania-mirza-wallpapers.html

GOOGLE GIRLS
http://funtube4u-web.blogspot.com/2011/06/google-girls-wallpapers.html
http://funtube4u-web.blogspot.com/2011/06/google-girls-wallpapers.html

ENJOY RANI SEASON
http://funtube4u-web.blogspot.com/2011/06/enjoy-rani-season-wallpapers.html
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http://funtube4u-web.blogspot.com/2011/06/glemeours-wallpapers.html
http://funtube4u-web.blogspot.com/2011/06/glemeours-wallpapers.html

2388. Free Software Download Sites List Best downloading sites Top

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-16 13:43:35 UTC
From: sathish kumar <sathishexxon@gmail.com>
Message-ID: <f0281f7a-691d-4103-b4a4-ad7ed7de7aae@h6g2000vbc.googlegroups.com>
Source record: 3689

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a freeware program from the CFS server. ... To list the very best
software which is completely free for non-commercial use

http://123maza.com/65/share759/

2389. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-17 03:10:16 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <4d18775qktorguuc621lkkipel3ia2c3hl@4ax.com>
Source record: 3690

On Thu, 15 Sep 2011 11:18:23 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Doesn't skype not support point to point? i.e. you couldn't do it from
>192.168.1.10 to 192.168.1.20 on a private network. I thought skype
>always needs to through the master skype resolver (to do a sort of
>dynamic dns function)

True. If you're not connected to the internet, Skype will not work.
The connection needs to be established via the distributed Skype
directory server system. You cannot easily bypass this to connect to
any random IP address or to your isolated LAN.

If you really want to do that, perhaps a simple G.711 VoIP client
would be sufficient.

>> If you want to roll your own, there's:
>> <http://www.speakfreely.org>
>
>Yes.. of course there's that "end of life announcement" from 2004.

Still works fine for me. Eventually, Microsoft will trample on some
obscure function and declare anything that then fails as legacy and
unsupported. Until that happens, it still works. Having the source
code is also very handy. SpeakFreely has been the basis of several
VoIP applications.

>I suppose that if it works well enough, one can keep using it forever
>(gosh, I've got plenty of software from the 90s that I keep using)

I'm still running a Xenix 2.3.2 server from about 1988. It should
continue to function until the hard disk quits. I've been waiting for
that to fail for at least 10 years.

>All I was looking for was a "virtual audio cable" of some sort. (yes, I
>know that VAC is actually something else)

Virtue and virtual are their own punishments.

>No, just that kind of simple thing.. send 3kHz BW audio from one PC to
>another, preferably with an app that is available for all 3 platforms
>(Win, Mac, *nix)
>
>Something that has a command line like:
>sendaudio -i {input audio source} -o 192.168.1.1
>recvaudio -i 192.168.1.1 -o {output audio device}

VLC will encode via an RTSP (real time streaming protocol) container
using RTP (real time transport protocol).

This looks like the magic incantations:
<http://wiki.videolan.org/Documentation:Streaming_HowTo/Command_Line_Examples#RTSP_live_st
reaming>

Server:
>> % vlc -vvv input_stream --sout
'#rtp{dst=192.168.0.12,port=1234,sdp=rtsp://server.example.org:8080/test.sdp}'

client:
>> % vlc rtsp://server.example.org:8080/test.sdp

More:
<http://wiki.videolan.org/Documentation:Streaming_HowTo/Advanced_Streaming_Using_the_Comma
nd_Line>
<http://wiki.videolan.org/Documentation:Streaming_HowTo/Command_Line_Examples>

Watch out for the screaming media features versus OS list.:
<http://www.videolan.org/streaming-features.html>

I must admit that I've never tried using VLC for encoding. If I have
time, I'll give it a try. Otherwise, good luck.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2390. Re: Radio Vorticity and Bandwidth Extension

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-17 03:11:14 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <j5134i$gc54$1@tr22n12.aset.psu.edu>
Source record: 3691

On 9/13/2011 8:52 PM, Richard Clark wrote:

> There are curious contradictions found:
> "This novel radio technique allows the implementation of, at least in
> principle, an infinite number of channels on one and the same
> frequency, even without using polarization or dense coding
> techniques."
> compared with:
> "Already with this setup one can obtain four physically distinct
> channels on the same frequency by additionally introducing the use of
> polarization, in this case independent from OAM. A further
> multiplication of a factor five after the implementation of
> multiplexing, yields a total of 20 channels in the same frequency."
>
> Soooo. A special vorticity technique that does not use polarization
> (even though they describe it as such) and does not use coding, can
> demonstrate novel outcomes when paired with polarization and coding
> (for which the outcome is fairly well established).
>
> Why isn't this peer reviewed in EM proceedings?

If I were to hazard a guess, this sounds like another holy grail dream for the digital folks. Many who just inherently "know" that bandwidth is infinite and can support infinite data.

Imagine - the entire universe playing Angry Birds at the same time. The mind boggles!

- 73 de Mike N3LI -

2391. showing kunt sucking each other cute girls

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-17 05:09:18 UTC
From: punithavathi punithavathi <punithapuni143@gmail.com>
Message-ID: <94b15501-9911-45e8-aceb-e184aa9c6f28@fe21g2000vbb.googlegroups.com>
Source record: 3692

webpage : http://123maza.com/65/dhoby582/

2392. electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-17 18:51:49 UTC
From: ogrowup@webtv.net
Message-ID: <5332-4E74EC45-1080@storefull-3172.bay.webtv.net>
Source record: 3693

Just acquired a couple reels of electric-fence wire from someone who got smart and got rid of her horses. Question: is this wire (seems to be aluminum) useful for antenna applications?

--
"Anyone who likes sausage and respects the law should not watch either being made."-- Otto von Bismarck --

2393. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-17 19:18:51 UTC
From: Ben / SM0KBW <kbw@allt2.se>
Message-ID: <9dka4lF10rU1@mid.individual.net>
Source record: 3694

Jim Lux skrev 2011-09-13 17:39:
> On 9/12/2011 9:38 PM, Sal wrote:
>> "n1ald"<cybrinjn@gmail.com> wrote in message
>> news:4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com...
>>
>>> Wait a minute. What this guy is selling is a streaming audio app, not a
>>> "shortwave radio" program.
>>
>> Correct. The screen display is a "fake" radio. Tsk, tsk!
>>
>>
>
> Oddly, I have been looking for a simple streaming audio app (to bring
> back audio from remote receivers via 802.11 for a antenna measurement
> project)... This one is clearly not it, but what else is out there.

I have used IHU, http://ihu.sourceforge.net/ for voip streaming. It's
for Linux and that maybe disqualfies that program?

73
Ben / SM0KBW

2394. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-17 20:34:38 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j53094uih1@dont-email.me>
Source record: 3695

On 9/17/2011 1:51 PM, Padraigh ProAmerica wrote:
> Just acquired a couple reels of electric-fence wire from someone who got
> smart and got rid of her horses. Question: is this wire (seems to be
> aluminum) useful for antenna applications?
>

Sure. Especially if it is aluminum. Watch for corrosion.

John KD5YI

2395. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-17 20:35:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F6443114318Fnonenowhere@88.198.244.100>
Source record: 3696

ogrowup@webtv.net (Padraigh ProAmerica) wrote in news:5332-4E74EC45-1080
@storefull-3172.bay.webtv.net:

> Just acquired a couple reels of electric-fence wire from someone who got
> smart and got rid of her horses. Question: is this wire (seems to be
> aluminum) useful for antenna applications?
>

Lots of things are sold as "electric fence wire" in this part of the world.

One of them is a 2.7mm diameter aluminium wire with a HT steel core. The aluminium is sufficiently thick that it is a ver good antenna wire, it is strong and has effective RF resistance not much higher than copper.

On the other hand, we can buy HT steel wire with a flash of Zal (Zinc-Aluminium) plating coated then with polyeurathane. Makes an appalling conductor for low HF.

You will need to take the effort to better describe your own wire to get a worthwhile opinion.

Owen

2396. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 03:51:14 UTC
From: ogrowup@webtv.net
Message-ID: <29392-4E756AB2-544@storefull-3173.bay.webtv.net>
Source record: 3697

It's solid and uncoated- no core. Looks like aluminum (I've worked with stainless steel wire and this wire ain't steel). Quite flexible. And the price was right. :)

--
"Anyone who likes sausage and respects the law should not watch either being made."-- Otto von Bismarck --

2397. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 05:16:42 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <e00d54f4-1932-42e4-ba91-ff7114dd7bfd@f8g2000yqf.googlegroups.com>
Source record: 3698

I would think that if it's strong enough to hold up it's own weight
(plus a little more) then it should certainly be usable for an
antenna. Making connections to aluminum isn't exactly easy at times,
but can certainly be done. I've used the coated-steel type electric
fence wire, the hardest part about using it was the mechanical
aspects. It loves to kink. The best antenna wire is whatever you
happen to have enough of at the time, right??
- 'Doc

2398. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 12:42:26 UTC
From: dave <dave@dave.dave>
Message-ID: <XaWdnYg4scCveujTnZ2dnUVZ_h-dnZ2d@earthlink.com>
Source record: 3699

On Sat, 17 Sep 2011 20:35:34 +0000, Owen Duffy wrote:

> ogrowup@webtv.net (Padraigh ProAmerica) wrote in news:5332-4E74EC45-1080
> @storefull-3172.bay.webtv.net:
>
>> Just acquired a couple reels of electric-fence wire from someone who
>> got smart and got rid of her horses. Question: is this wire (seems to
>> be aluminum) useful for antenna applications?
>>
>>
> Lots of things are sold as "electric fence wire" in this part of the
> world.
>
> One of them is a 2.7mm diameter aluminium wire with a HT steel core. The
> aluminium is sufficiently thick that it is a ver good antenna wire, it
> is strong and has effective RF resistance not much higher than copper.
>
> On the other hand, we can buy HT steel wire with a flash of Zal (Zinc-
> Aluminium) plating coated then with polyeurathane. Makes an appalling
> conductor for low HF.
>
> You will need to take the effort to better describe your own wire to get
> a worthwhile opinion.
>
> Owen

"Appalling conductor"? How so? In radio school they tell us a wet piece
of rope can be used in an emergency; where does that land on the
"appalling" scale?

2399. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 12:51:18 UTC
From: dave <dave@dave.dave>
Message-ID: <XaWdnYs4scDbdOjTnZ2dnUVZ_h-dnZ2d@earthlink.com>
Source record: 3700

On Sat, 17 Sep 2011 22:16:42 -0700, 'Doc wrote:

> I would think that if it's strong enough to hold up it's own weight
> (plus a little more) then it should certainly be usable for an antenna.
> Making connections to aluminum isn't exactly easy at times, but can
> certainly be done. I've used the coated-steel type electric fence wire,
> the hardest part about using it was the mechanical aspects. It loves to
> kink. The best antenna wire is whatever you happen to have enough of at
> the time, right??
> - 'Doc

They sell aluminum grounding blocks at the hardware store, basically aluminum bars with screw threads every half inch or so. These are cheap and easily broken into usable splicing blocks, using a hammer and a vise.

I use these for mid-air splices on my loops, and for the radial system for my verticals. Again, remove the screws, break as needed (remember Cinch Jones barrier strips?), good DX!

http://www.homedepot.com/Electrical-Breakers-Distribution-Load-Centers-Accessories/h_d1/N-5yc1vZbm0y/R-100173659/h_d2/ProductDisplay?langId=-1&storeId=10051&catalogId=10053

2400. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 14:39:30 UTC
From: Paul Drahn <pdrahn@webformixair.com>
Message-ID: <j54vrbgaq1@dont-email.me>
Source record: 3551

On 9/17/2011 11:51 AM, Padraigh ProAmerica wrote:
> Just acquired a couple reels of electric-fence wire from someone who got
> smart and got rid of her horses. Question: is this wire (seems to be
> aluminum) useful for antenna applications?
>
I have lots of electric fence wire that is aluminum. I like it because
it's easy to handle.

However, I have never tried it for antenna wire. It is quite soft and
stretches a lot. I suspect it would be fine for a 40 meter dipole, but
for anything lower in frequency it might continue to stretch under it's
own weight, plus a center insulator, balun and coax weight.

Try a length suspended at 5-6 foot and then add some weight in the
middle to simulate the coax and other stuff and measure the sag to
ground over a week or so time period.

Paul, KD7HB

2401. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 20:49:48 UTC
From: ogrowup@webtv.net
Message-ID: <29393-4E76596C-267@storefull-3173.bay.webtv.net>
Source record: 3552

Missed this whn I first read it.

Seems a polyurethane coating would render the wire useless in an
electric fence use.

--
"Anyone who likes sausage and respects the law should not watch either
being made."-- Otto von Bismarck --

2402. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 21:01:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F6547627BD23nonenowhere@88.198.244.100>
Source record: 3553

Hi Paul,

Paul Drahn <pdrahn@webformixair.com> wrote in news:j54vrbgaq1@dont-email.me:

...
> I have lots of electric fence wire that is aluminum. I like it because
> it's easy to handle.
>
> However, I have never tried it for antenna wire. It is quite soft and
> stretches a lot. I suspect it would be fine for a 40 meter dipole, but
> for anything lower in frequency it might continue to stretch under it's
> own weight, plus a center insulator, balun and coax weight.

That is an issue for annealed copper which is probably the most popular conductor amongst hams, especially in small diameters.

One of the things that happens is that as the copper yields (stretches), it work hardens, increasing its tensile strength. So, if the forces are not too high, it might yeild a little, become a little thinner, a little longer, a little stronger and survive (for now).

At some point, the increase in tensile strength of the copper does not offset the reduction in cross section area and the stretch continues with lower tension until it breaks.

Soft aluminium wire would not seem to comply with the NEC clauses for antennas, though they are apparently widely ignored.

I collaborated on an antenna project where Gallagher XL HT steel cored 30% aluminium clad wire (2.7mm overall) was chosen for long spans in a place subject to high winds, snow and ice. It was well suited to the task, RF conductivity similar to 2mm HDC IIRC, and much stronger.

Owen

2403. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 21:12:34 UTC
From: W8CCW <Jferrell13@triad.rr.com>
Message-ID: <ehnc77dgg6teeinicc8basegge649kifc1@4ax.com>
Source record: 3554

I tried 16 gauge Al wire and it was too soft & weak for anything. I
use it for bundling stuff now.
I would sure hate to depend on that to keep the bull next door!

On Sat, 17 Sep 2011 23:51:14 -0400, ogrowup@webtv.net (Padraigh
ProAmerica) wrote:

>It's solid and uncoated- no core. Looks like aluminum (I've worked with
>stainless steel wire and this wire ain't steel). Quite flexible. And the
>price was right. :)

2404. Re: electric-fence wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 21:29:46 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j55nsafoi1@dont-email.me>
Source record: 3555

On 9/18/2011 4:12 PM, W8CCW wrote:
> I tried 16 gauge Al wire and it was too soft& weak for anything. I
> use it for bundling stuff now.
> I would sure hate to depend on that to keep the bull next door!

It'll probably be okay with 50kV applied to it.

2405. FA: 50 Feet of 50 OHM RG-58 Antenna Coax Cable w/ PL-259

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 23:46:54 UTC
From: Keith <kilowattradio@use-reply-to.invalid>
Message-ID: <j55vtf01p0i@news4.newsguy.com>
Source record: 3556
Cross-posted to: rec.radio.swap,rec.radio.cb,rec.radio.amateur.equipment,rec.radio.amateur.antenna

<http://www.ebay.com/itm/280740676909>

Priced to sell!

--
Best Regards, Keith
|--|
http://home.comcast.net/~kilowattradio/

2406. FA: 50 Feet of 50 OHM RG-8X Antenna Coax Cable w/ PL-259

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-18 23:50:19 UTC
From: Keith <kilowattradio@use-reply-to.invalid>
Message-ID: <j5603s01p6e@news4.newsguy.com>
Source record: 3557
Cross-posted to: rec.radio.swap,rec.radio.cb,rec.radio.amateur.equipment,rec.radio.amateur.antenna

<http://www.ebay.com/itm/270819605176>

Priced to sell!

--
Best Regards, Keith
|--|
http://home.comcast.net/~kilowattradio/

2407. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-19 16:48:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j57ropubk1@news.jpl.nasa.gov>
Source record: 3558

On 9/17/2011 12:18 PM, Ben / SM0KBW wrote:
> Jim Lux skrev 2011-09-13 17:39:
>> On 9/12/2011 9:38 PM, Sal wrote:
>>> "n1ald"<cybrinjn@gmail.com> wrote in message
>>> news:4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com...
>>>
>>>
>>>> Wait a minute. What this guy is selling is a streaming audio app, not a
>>>> "shortwave radio" program.
>>>
>>> Correct. The screen display is a "fake" radio. Tsk, tsk!
>>>
>>>
>>
>> Oddly, I have been looking for a simple streaming audio app (to bring
>> back audio from remote receivers via 802.11 for a antenna measurement
>> project)... This one is clearly not it, but what else is out there.
>
> I have used IHU, http://ihu.sourceforge.net/ for voip streaming. It's
> for Linux and that maybe disqualfies that program?

being Linux doesn't disqualify it, but having no support for other OSes sort of does..

At least it has a command line interface (useful for the remote end, which is a small Linux box) (bearing in mind the author's warning:

Those options are useful for quick launch (at least for me ;),
but I don't think it's a good idea to use them (they might be buggy),
in the future I may use standard GNU getopt, but for the moment
please use the graphic interface instead.

And it has a variety of flavors. And it might be possible to compile it to run under OS-X or windows (not in emulation or VM, but using a useful library)

The real gripe I have is that the data format isn't described anywhere (at least not that google can find). reading through the source code finds stuff about headers, stream sync, etc. but there's no obvious description of what the UDP/TCP packets look like. In fact, there's no comments in the source code, for the most part.

So if you DID want to write your own endpoint, it would be mighty tough.

2408. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-19 17:48:09 UTC
From: dave <dave@dave.dave>
Message-ID: <o5adnW1ZdqjEHerTnZ2dnUVZ_oGdnZ2d@earthlink.com>
Source record: 3559

On Sun, 11 Sep 2011 16:05:44 -0700, Jeff Liebermann wrote:

> On 10 Sep 2011 18:27:58 GMT, dave <dave@dave.dave> wrote:
>
>>Cell sites are a different animal . We were talking about 2-way,
>>point-to-point, VHF/UHF broadcast type sites.
>
> Perhaps you didn't notice but several of the examples of PIM and rotten
> coax induced intermod were for non-cellular systems. The problems are
> much the same with any service type. If you have moderate TX power,
> magnetic materials in the connectors, and sensitive receivers, PIM might
> be a concern.

It's still a math problem. You can predict intermod products from known
frequencies whether the non-linear device is active or passive.

2409. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-19 18:50:46 UTC
From: Ben / SM0KBW <kbw@allt2.se>
Message-ID: <9dph86Fvb1U1@mid.individual.net>
Source record: 3560

```
Jim Lux skrev 2011-09-19 18:48:
> On 9/17/2011 12:18 PM, Ben / SM0KBW wrote:
>> Jim Lux skrev 2011-09-13 17:39:
>>> On 9/12/2011 9:38 PM, Sal wrote:
>>>> "n1ald"<cybrinjn@gmail.com> wrote in message
>>>> news:4945c1bb-9204-4dee-8326-127eddcddf8c@glegroupsg2000goo.googlegroups.com...
>>>>
>>>>
>>>>
>>>>> Wait a minute. What this guy is selling is a streaming audio app,
>>>>> not a
>>>>> "shortwave radio" program.
>>>>
>>>> Correct. The screen display is a "fake" radio. Tsk, tsk!
>>>>
>>>>
>>>
>>> Oddly, I have been looking for a simple streaming audio app (to bring
>>> back audio from remote receivers via 802.11 for a antenna measurement
>>> project)... This one is clearly not it, but what else is out there.
>>
>> I have used IHU, http://ihu.sourceforge.net/ for voip streaming. It's
>> for Linux and that maybe disqualfies that program?
>
> being Linux doesn't disqualify it, but having no support for other OSes
> sort of does..
>
> At least it has a command line interface (useful for the remote end,
> which is a small Linux box) (bearing in mind the author's warning:
>
> Those options are useful for quick launch (at least for me ;),
> but I don't think it's a good idea to use them (they might be buggy),
> in the future I may use standard GNU getopt, but for the moment
> please use the graphic interface instead.
>
>
> And it has a variety of flavors. And it might be possible to compile it
> to run under OS-X or windows (not in emulation or VM, but using a useful
> library)
>
> The real gripe I have is that the data format isn't described anywhere
> (at least not that google can find). reading through the source code
> finds stuff about headers, stream sync, etc. but there's no obvious
```

> description of what the UDP/TCP packets look like. In fact, there's no
> comments in the source code, for the most part.
>
> So if you DID want to write your own endpoint, it would be mighty tough.

I'm not sure what you mean with data format, but I assume you are
talking about the audio stream. IHU is just a simple interface to
Speex, http://www.speex.org/, and that is a free audio compressing
codec, at least free in the sense of BSD License.

The documentation for Speex is rather comprehensive, and it covers the
RTP format and the API.

73
Ben / SM0KBW

2410. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-19 19:59:53 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j586vpssd1@dont-email.me>
Source record: 3561

On 9/19/2011 12:48 PM, dave wrote:
[dribble snipped]

I see you're over here trying to sound impressive too.

Jeff

--
"Everything from Crackers to Coffins"

2411. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-19 21:00:40 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j58aho$pa7$1@news.jpl.nasa.gov>
Source record: 3562

```
>
> I'm not sure what you mean with data format, but I assume you are
> talking about the audio stream. IHU is just a simple interface to
> Speex, http://www.speex.org/, and that is a free audio compressing
> codec, at least free in the sense of BSD License.

> The documentation for Speex is rather comprehensive, and it covers the
> RTP format and the API.

Hmm.. Appendix C of the Speex doc does provide a RTP example. However,
IHU doesn't say anywhere that this is what it does (it does say it uses
speex for compression). It's also not clear that IHU is actually using
RTP frames. It seems that IHU has its own homegrown packet format:
(in packet.cpp)

ARCHITECTURE OF THE PACKET
*
* A IHU packet consists of 2 parts:
* 1) Header
* 2) Data
*
* THE HEADER
*
* THe header is made up of 3 parts:
*
* a) SYNC Pattern (3 bytes)
* The pattern consists of the fixed ASCII string: "IHU"
*
* b) Packet SIZE (1 byte): unsigned char that contains
* the size of the packet (min size 5, max size 256)
*
* c) INFO data (1 byte)
* It contains those informations (in order):
* - OBSOLETE: still used for bakward compatibility (versions < 0.6.x)
* Speex mode (3 bits). It can be:
* IHU_INFO_MODE_ULTRAWIDE
* IHU_INFO_MODE_WIDE
* IHU_INFO_MODE_NARROW
* - Packet type (5 bits). It can be:
* IHU_INFO_RESET 0x0
* IHU_INFO_INIT 0x1
* IHU_INFO_AUDIO 0x2
* IHU_INFO_CRYPTED_AUDIO 0x3
* IHU_INFO_KEY_REQUEST 0x4
```

```
* IHU_INFO_NEW_KEY 0x5
* IHU_INFO_ANSWER 0x6
* IHU_INFO_CLOSE 0x7
* IHU_INFO_REFUSE 0x8
* IHU_INFO_RING 0x3f
* IHU_INFO_RING_REPLY 0x3e
*
* d) Data LENGTH (1 byte): unsigned char that contains
* the size of the following DATA part (min 0, max 250)
*
* THE DATA
*
* This part of the packet is of variable size (min 0, max 250 bytes)
* and it contains the data to be trasmitted.
* It can be absent (if the packet doesn't need to transmit any data)
* or, can be audio data or keys for encpryption.
* The type of data transmitted is specified in the INFO header
*
*/
```

anyway.. the point is that while IHU probably works just fine, it's like a lot of other undocumented utilities out there: it works for what it's original author intended, and if you want to use it as a basis for software that you'd write, it's great.

However, my whole question was really to see if some simple off-the-shelf multiplatform already existed. (i.e. I'd rather spend my time doing things OTHER than writing audio transport code)

2412. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 06:04:50 UTC
From: Ben / SM0KBW <kbw@allt2.se>
Message-ID: <9dqonvF49aU1@mid.individual.net>
Source record: 3563

```
Jim Lux skrev 2011-09-19 23:00:
>>
>> I'm not sure what you mean with data format, but I assume you are
>> talking about the audio stream. IHU is just a simple interface to
>> Speex, http://www.speex.org/, and that is a free audio compressing
>> codec, at least free in the sense of BSD License.
>
>
>> The documentation for Speex is rather comprehensive, and it covers the
>> RTP format and the API.
>
> Hmm.. Appendix C of the Speex doc does provide a RTP example. However,
> IHU doesn't say anywhere that this is what it does (it does say it uses
> speex for compression). It's also not clear that IHU is actually using
> RTP frames. It seems that IHU has its own homegrown packet format:
> (in packet.cpp)
>
> ARCHITECTURE OF THE PACKET
> *
> * A IHU packet consists of 2 parts:
> * 1) Header
> * 2) Data
> *
> * THE HEADER
> *
> * THe header is made up of 3 parts:
> *
> * a) SYNC Pattern (3 bytes)
> * The pattern consists of the fixed ASCII string: "IHU"
> *
> * b) Packet SIZE (1 byte): unsigned char that contains
> * the size of the packet (min size 5, max size 256)
> *
> * c) INFO data (1 byte)
> * It contains those informations (in order):
> * - OBSOLETE: still used for bakward compatibility (versions < 0.6.x)
> * Speex mode (3 bits). It can be:
> * IHU_INFO_MODE_ULTRAWIDE
> * IHU_INFO_MODE_WIDE
> * IHU_INFO_MODE_NARROW
> * - Packet type (5 bits). It can be:
> * IHU_INFO_RESET 0x0
> * IHU_INFO_INIT 0x1
```

> * IHU_INFO_AUDIO 0x2
> * IHU_INFO_CRYPTED_AUDIO 0x3
> * IHU_INFO_KEY_REQUEST 0x4
> * IHU_INFO_NEW_KEY 0x5
> * IHU_INFO_ANSWER 0x6
> * IHU_INFO_CLOSE 0x7
> * IHU_INFO_REFUSE 0x8
> * IHU_INFO_RING 0x3f
> * IHU_INFO_RING_REPLY 0x3e
> *
> * d) Data LENGTH (1 byte): unsigned char that contains
> * the size of the following DATA part (min 0, max 250)
> *
> * THE DATA
> *
> * This part of the packet is of variable size (min 0, max 250 bytes)
> * and it contains the data to be trasmitted.
> * It can be absent (if the packet doesn't need to transmit any data)
> * or, can be audio data or keys for encpryption.
> * The type of data transmitted is specified in the INFO header
> *
> */
>
>
> anyway.. the point is that while IHU probably works just fine, it's like
> a lot of other undocumented utilities out there: it works for what it's
> original author intended, and if you want to use it as a basis for
> software that you'd write, it's great.
>
>
> However, my whole question was really to see if some simple
> off-the-shelf multiplatform already existed. (i.e. I'd rather spend my
> time doing things OTHER than writing audio transport code)
>

You are probably right. I've used IHU to see if Speex was good enough to use as an audiolink. I didn't scrutinize the source code. I am planning to establish a link between my noisy home (Stockholm) and my summerhouse. Anyhow that good suitable audiolink software has yet to be written ;)

73
Bengt / SM0KBW

2413. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 07:16:29 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <d5eg77lht1shutei8pbdco3hd6ecke5jvo@4ax.com>
Source record: 3564

On Mon, 19 Sep 2011 12:48:09 -0500, dave <dave@dave.dave> wrote:

>On Sun, 11 Sep 2011 16:05:44 -0700, Jeff Liebermann wrote:
>
>> On 10 Sep 2011 18:27:58 GMT, dave <dave@dave.dave> wrote:
>>
>>>Cell sites are a different animal . We were talking about 2-way,
>>>point-to-point, VHF/UHF broadcast type sites.
>>
>> Perhaps you didn't notice but several of the examples of PIM and rotten
>> coax induced intermod were for non-cellular systems. The problems are
>> much the same with any service type. If you have moderate TX power,
>> magnetic materials in the connectors, and sensitive receivers, PIM might
>> be a concern.

>It's still a math problem. You can predict intermod products from known
>frequencies whether the non-linear device is active or passive.

Yep. And after I've done the math, I still have to get rid of the
intermod. The problem is not the math. That's well known and easy to
do. The problems are:
1. Finding which of the hundreds of signals found on a typical
mountain top is causing the problem.
2. Finding where the likely culprits are located (i.e. which
building).
3. Finding any and all sources of non-linearity that are producing
the mixes. That could be anything from a gold on nickel connector to
insufficient reverse power protection on a broadband power amp.
4. Site management and politics.

It's no longer single "known frequencies" causing the intermod. In
these days of broadband everything, it's fairly wide swaths of digital
noise that's causing the intermod. For example, CDMA phone is 1.25Mhz
wide, WCDMA is 5Mhz, and CDMA2000 is up to 25Mhz wide. The worst part
is that most of the culprits can't be decoded on my service monitor,
so I can't tell for sure if they're causing the intermod.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2414. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 09:04:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj7gli9.h19.gsm@cable.mendelson.com>
Source record: 3565

Ben / SM0KBW wrote:
> You are probably right. I've used IHU to see if Speex was good enough to
> use as an audiolink. I didn't scrutinize the source code. I am planning
> to establish a link between my noisy home (Stockholm) and my
> summerhouse. Anyhow that good suitable audiolink software has yet to be
> written ;)

Sure it has. Look up SVXLINK. It was intended to link a repeater with remote sites, but you don't actually need to have a radio on either end. It has full rig control with a serial interface, although one ham here built a USB one and I believe it interfaces to commercial ones.

It has remote receiver support with voting if there is more than one, remote transmitter support and a multiuser Echolink client.

It even has the capability to be controlled via DTMF tones built in.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2415. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 09:26:01 UTC
From: Ben / SM0KBW <kbw@allt2.se>
Message-ID: <9dr4h7F46qU1@mid.individual.net>
Source record: 3566

Geoffrey S. Mendelson skrev 2011-09-20 11:04:
> Ben / SM0KBW wrote:
>> You are probably right. I've used IHU to see if Speex was good enough to
>> use as an audiolink. I didn't scrutinize the source code. I am planning
>> to establish a link between my noisy home (Stockholm) and my
>> summerhouse. Anyhow that good suitable audiolink software has yet to be
>> written ;)
>
> Sure it has. Look up SVXLINK. It was intended to link a repeater with remote
> sites, but you don't actually need to have a radio on either end. It has full
> rig control with a serial interface, although one ham here built a USB one
> and I believe it interfaces to commercial ones.
>
> It has remote receiver support with voting if there is more than one,
> remote transmitter support and a multiuser Echolink client.
>
> It even has the capability to be controlled via DTMF tones built in.
>
> Geoff.
>
>
The SVXLINK project is an intresting one if I want to do FM and or
ECHOLINK - repeater stuff. If I just want an an audiostream then
it's i.m.h.o just to bloated with these DTMF, CTCSS .....

73
Ben / SM0KBW

2416. Re: streaming audio ap Re: Internet Shortwave Reciever Professional Software Ver. 1.5

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 10:59:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnj7gs9e.p4s.gsm@cable.mendelson.com>
Source record: 3567

Ben / SM0KBW wrote:

> The SVXLINK project is an intresting one if I want to do FM and or
> ECHOLINK - repeater stuff. If I just want an an audiostream then
> it's i.m.h.o just to bloated with these DTMF, CTCSS .....

Bloat is relative. It's a reasonably small program that runs under Linux,
you probably could wedge it with the extras turned off onto an old router.

Gone are the days that speak freely was available, and you could run
remote audio pickups via piping the audio via ssh.

(sendprogram) | ssh computer (receiveprogam)

Worked well for me to pipe a receiver in Jerusalem via frame relay to a
remote speaker in Tel Aviv. This used 8k bits per second (plus overhead)
of a 64k bits per second line.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Making your enemy reliant on software you support is the best revenge.

2417. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 12:04:05 UTC
From: dave <dave@dave.dave>
Message-ID: <SM2dnZEB3Y2oHOXTnZ2dnUVZ_smdnZ2d@earthlink.com>
Source record: 3568

On Mon, 19 Sep 2011 14:59:53 -0500, Jeffrey Angus wrote:

> On 9/19/2011 12:48 PM, dave wrote:
> [dribble snipped]
>
> I see you're over here trying to sound impressive too.
>
> Jeff

I don't need to sound "impressive". I have been paid to conduct many
intermod studies using proprietary software.

2418. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 12:16:40 UTC
From: dave <dave@dave.dave>
Message-ID: <SM2dnZAB3Y21GeXTnZ2dnUVZ_smdnZ2d@earthlink.com>
Source record: 3569

On Tue, 20 Sep 2011 00:16:29 -0700, Jeff Liebermann wrote:

>
> Yep. And after I've done the math, I still have to get rid of the
> intermod. The problem is not the math. That's well known and easy to
> do. The problems are:
> 1. Finding which of the hundreds of signals found on a typical mountain
> top is causing the problem.
> 2. Finding where the likely culprits are located (i.e. which building).
> 3. Finding any and all sources of non-linearity that are producing the
> mixes. That could be anything from a gold on nickel connector to
> insufficient reverse power protection on a broadband power amp. 4. Site
> management and politics.
>
> It's no longer single "known frequencies" causing the intermod. In
> these days of broadband everything, it's fairly wide swaths of digital
> noise that's causing the intermod. For example, CDMA phone is 1.25Mhz
> wide, WCDMA is 5Mhz, and CDMA2000 is up to 25Mhz wide. The worst part
> is that most of the culprits can't be decoded on my service monitor, so
> I can't tell for sure if they're causing the intermod.

Cellular phones are a different animal. I worked on fixed and mobile,
mostly analog, mostly FM radios. Theory and practice are quite different.

The tower owner should have an inventory of every transmit and every
receive frequency, plus all the standard I.F., plus nearby external high
powered sources. The owner should have cleared each frequency before it
went on the air, and should not add a tenant if doing so would create a
harmful spur to existing users. This is site management 101.

I don't care how the WL people run their data streams. Cellular folks
don't like high mountains (except for backhaul). I know they use very
advanced techniques to hear signals below the noise floor; keeping that
noise floor as low as possible is of paramount importance when you are
looking at 100 mW devices in people's pockets 5 miles away.

FWIW, Tek has a real nice analyzer that will reverse engineer TDMA spurs.
make time-lapse spectrum analysis, and can even write on a map for you.

2419. Sexy Indian Girls and Actress Exposing Boobs And Thighs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 14:53:35 UTC
From: yutruititu utyuiyiy <kamaalkaka4@gmail.com>
Message-ID: <f44d14f1-8337-4dbd-add9-c44ef9785cfd@1g2000vbu.googlegroups.com>
Source record: 3570

http://www.actresshome.com/

2420. Re: Sexy Indian Girls and Actress Exposing Boobs And Thighs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 22:53:01 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j5b5gdvg1@dont-email.me>
Source record: 3571

On 9/20/2011 9:53 AM, yutruititu utyuiyiy wrote:
> [snip]
Nice, so how well do they propagate?

--
"Everything from Crackers to Coffins"

2421. Hey Jeff!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-20 23:48:26 UTC
From: amdx <amdx@knology.net>
Message-ID: <cbd75$4e792658$18ec6dd7$31025@KNOLOGY.NET>
Source record: 3572

I'm curious, I'm in a marina that has an L shaped concrete parking lot
with water on the inside of the L<-- right were the arrow points.
I'm docked in the corner of the L, and want to send a signal everywhere
but the the water.
What does the pattern look like if I use a corner reflector but put
the source on the outside of the corner rather than the inside?
I'm at 433 Mhz now but may need to go to 2.4 Ghz.
The app is a driveway sensor that triggers a pocket carried receiver no
matter where I'm at on the L.
As it stands the transmitter range is not far enough, I only need 50
yards down leg of the L.
Mikek

2422. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-21 03:11:24 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <36bi771ug1k7ujjq16ecjeear0o7lfr13v@4ax.com>
Source record: 3573

On Tue, 20 Sep 2011 07:16:40 -0500, dave <dave@dave.dave> wrote:

>Theory and practice are quite different.

One day, you're going to eat those words, when you have to decide whether to follow theory or practice. When I find that they're different, it's usually because I'm doing something wrong. Also, if you understand the theory, you can probably figure out the practice (what to do). However, if you know the practice (i.e. seat of the pants engineering), you're highly likely to fumble somewhere.

>The tower owner should have an inventory of every transmit and every
>receive frequency, plus all the standard I.F., plus nearby external high
>powered sources. The owner should have cleared each frequency before it
>went on the air, and should not add a tenant if doing so would create a
>harmful spur to existing users. This is site management 101.

You almost made me spill my hot chocolate. You're correct. Site managers should do all that. The problem is that all but one of the site managers that I know of are business types, not engineers. They hire engineers, tower jockeys, construction crews, and generally run the business. It's not unusual for me to get a call or email with "I just signed on to have [insert name] company put their radios in the building. I'll let you know if anyone complains". This translates to "Don't burn any billable hours doing calculations until AFTER someone experiences interference. In short, I get paid to clean up the mess, not to do the planning. If I want to enforce any engineering standards, it's also done post mortem. At best, I would get an email asking where in the building and tower I would guess the new radios should be installed, usually without telling me the frequencies or equipment. Interrogating the prospective new customer is something I try to do, but often they contract out the repeater service to a comm shop, which claims that they don't know anything because they're afraid I might steal the customer. I don't wanna talk about licensing, HAAT calcs, and coordination. Hopefully, your operation is a bit closer to theory than practice.

> I don't care how the WL people run their data streams. Cellular folks
>don't like high mountains (except for backhaul).

Generally true. The CDMA crowd doesn't like high mountains for the same reason they don't like CDMA operation in airplanes. The noise floor is much higher up high and there are not enough channels available to handle all the potential users if in a metro area. However, they do like medium high mountain tops with fairly well controlled coverage areas. They also like to share site ownership and

management with public agencies to reduce costs.

>I know they use very
>advanced techniques to hear signals below the noise floor; keeping that
>noise floor as low as possible is of paramount importance when you are
>looking at 100 mW devices in people's pockets 5 miles away.

100mw is about the maximum that a cell phone can belch. Power control
will usually keep that down to about 30-50mw.

>FWIW, Tek has a real nice analyzer that will reverse engineer TDMA spurs.
>make time-lapse spectrum analysis, and can even write on a map for you.

Well, the 20+ year old P25 radios are finally being forced into
service by FCC edict, along with various incompatible TDMA
implementations. Meanwhile, cellular is heading towards various CDMA
spread spectrum technologies (CDMA200, WCDMA, LTE, etc), which makes
TDMA look kinda dated. Anyway, I can't afford much in the way of
expensive test equipment and usually borrow or rent what I need. I
haven't actually seen a spur, mix, intermod, or noise on a spectrum
analyzer for many years as the receiver sensitivities are well below
the analyzer noise floor. Same problem with PIM (passive intermod).
It takes quite a bit of power to produce PIM making it almost
impossible to measure PIM while the xmitters are in operation. Trying
to see PIM on a spectrum analyzer is futile.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2423. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-21 12:49:49 UTC
From: dave <dave@dave.dave>
Message-ID: <BOudnVKC3bfwQOTTnZ2dnUVZ_hadnZ2d@earthlink.com>
Source record: 3574

On Tue, 20 Sep 2011 20:11:24 -0700, Jeff Liebermann wrote:

> On Tue, 20 Sep 2011 07:16:40 -0500, dave <dave@dave.dave> wrote:
>
>>Theory and practice are quite different.
>
> One day, you're going to eat those words, when you have to decide
> whether to follow theory or practice. When I find that they're
> different, it's usually because I'm doing something wrong. Also, if you
> understand the theory, you can probably figure out the practice (what to
> do). However, if you know the practice (i.e. seat of the pants
> engineering), you're highly likely to fumble somewhere.
>
>>The tower owner should have an inventory of every transmit and every
>>receive frequency, plus all the standard I.F., plus nearby external high
>>powered sources. The owner should have cleared each frequency before it
>>went on the air, and should not add a tenant if doing so would create a
>>harmful spur to existing users. This is site management 101.
>
> You almost made me spill my hot chocolate. You're correct. Site
> managers should do all that. The problem is that all but one of the
> site managers that I know of are business types, not engineers. They
> hire engineers, tower jockeys, construction crews, and generally run the
> business. It's not unusual for me to get a call or email with "I just
> signed on to have [insert name] company put their radios in the
> building. I'll let you know if anyone complains". This translates to
> "Don't burn any billable hours doing calculations until AFTER someone
> experiences interference. In short, I get paid to clean up the mess,
> not to do the planning. If I want to enforce any engineering standards,
> it's also done post mortem. At best, I would get an email asking where
> in the building and tower I would guess the new radios should be
> installed, usually without telling me the frequencies or equipment.
> Interrogating the prospective new customer is something I try to do, but
> often they contract out the repeater service to a comm shop, which
> claims that they don't know anything because they're afraid I might
> steal the customer. I don't wanna talk about licensing, HAAT calcs, and
> coordination. Hopefully, your operation is a bit closer to theory than
> practice.
>
>> I don't care how the WL people run their data streams. Cellular folks
>>don't like high mountains (except for backhaul).
>
> Generally true. The CDMA crowd doesn't like high mountains for the same
> reason they don't like CDMA operation in airplanes. The noise floor is

> much higher up high and there are not enough channels available to
> handle all the potential users if in a metro area. However, they do like
> medium high mountain tops with fairly well controlled coverage areas.
> They also like to share site ownership and management with public
> agencies to reduce costs.
>
>>I know they use very
>>advanced techniques to hear signals below the noise floor; keeping that
>>noise floor as low as possible is of paramount importance when you are
>>looking at 100 mW devices in people's pockets 5 miles away.
>
> 100mw is about the maximum that a cell phone can belch. Power control
> will usually keep that down to about 30-50mw.
>
>>FWIW, Tek has a real nice analyzer that will reverse engineer TDMA
>>spurs. make time-lapse spectrum analysis, and can even write on a map
>>for you.
>
> Well, the 20+ year old P25 radios are finally being forced into service
> by FCC edict, along with various incompatible TDMA implementations.
> Meanwhile, cellular is heading towards various CDMA spread spectrum
> technologies (CDMA200, WCDMA, LTE, etc), which makes TDMA look kinda
> dated. Anyway, I can't afford much in the way of expensive test
> equipment and usually borrow or rent what I need. I haven't actually
> seen a spur, mix, intermod, or noise on a spectrum analyzer for many
> years as the receiver sensitivities are well below the analyzer noise
> floor. Same problem with PIM (passive intermod). It takes quite a bit
> of power to produce PIM making it almost impossible to measure PIM while
> the xmitters are in operation. Trying to see PIM on a spectrum analyzer
> is futile.

I communicated sloppily; I mean the "theory and practice" of multiplexed
digital wireless is different than the "theory and practice" of SCPC
analog, e.g. your ability to see something meaningful on a scope.

http://www.tek.com/products/spectrum-analyzer/sa2600/

The scope is running Windows and can constantly compute intermod products
(aka predict spurs) based on the real time environment. It has an option
for advanced wireless signals. I could never get my boss to buy me one;
they are enamored of Rohde Fish 313s.

2424. Re: Hey Jeff!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-21 14:56:51 UTC
From: amdx <amdx@knology.net>
Message-ID: <e753d$4e79fac4$4b4c116f$13431@KNOLOGY.NET>
Source record: 3575

On 9/20/2011 6:48 PM, amdx wrote:
> I'm curious, I'm in a marina that has an L shaped concrete parking lot
> with water on the inside of the L<-- right were the arrow points.
> I'm docked in the corner of the L, and want to send a signal everywhere
> but the the water.
> What does the pattern look like if I use a corner reflector but put the
> source on the outside of the corner rather than the inside?
> I'm at 433 Mhz now but may need to go to 2.4 Ghz.
> The app is a driveway sensor that triggers a pocket carried receiver no
> matter where I'm at on the L.
> As it stands the transmitter range is not far enough, I only need 50
> yards down leg of the L.
> Mikek

Sorry, wrong group, well right group, but Jeff isn't here often. :-)

2425. Re: Hey Jeff!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-21 17:34:57 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <r08k77hkvi08jfgc328g81hm84c278afi1@4ax.com>
Source record: 3576

On Wed, 21 Sep 2011 09:56:51 -0500, amdx <amdx@knology.net> wrote:

> Sorry, wrong group, well right group, but Jeff isn't here often. :-)

I'm here, but out the door heading to a funeral. I just hate losing
customers that way. Maybe tonite.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2426. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-21 20:09:58 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <u1gk77dc39vnni3sr88kq5fkv3mqr31idt@4ax.com>
Source record: 3577

On Wed, 21 Sep 2011 07:49:49 -0500, dave <dave@dave.dave> wrote:

>http://www.tek.com/products/spectrum-analyzer/sa2600/
>The scope is running Windows and can constantly compute intermod products
>(aka predict spurs) based on the real time environment. It has an option
>for advanced wireless signals.

Nice. I didn't know that existed. However, the way it works isn't anything magic that can't be done with PC controlled spectrum analyzer. It also seems to have some serious limitations when looking at broadband noise (i.e. CDMA). The SA2600 looks at the display and records all the frequencies and amplitudes that it sees. It then computes the likely intermod products. This would be really cool for sites where carriers come and go (i.e. frequency hopping trunking systems, cellular handoffs, FHSS). However, I didn't see anything in the notes on how it would handle a broadband signal. If it were smart, it would measure the upper and lower frequencies of the broadband noise, and use that to predict similar broadband interference bands. However, I couldn't tell from the destructions if that's what they're doing. The box would certainly be handy for "monitoring" the receive frequency waiting for the intermod to appear. Of course the signal levels would need to be well controlled to prevent displaying mixing products in the SA front end. Much of what I see in the way of intermod would never show up on a spectrum analyzer. For example, you're not doing to see PIM on a SA.

I don't think I can justify the cost on the basis of time saved. For example, I once isolated the source of intermod to another mountain top, about 20 miles away.

>I could never get my boss to buy me one;
>they are enamored of Rohde Fish 313s.

<http://nefl-dstar.com/blog/2010/07/01/the-fsh313-spectrum-analyzer/>
$11,000 spectrum analyzer with tracking generator and you're complaining? You should try using some of my antique test equipment and see if your opinion changes. I don't think I have anything newer than about 20 years old.
<http://802.11junk.com/jeffl/pics/home/slides/BL-shop6.html>

--
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http://www.LearnByDestroying.com AE6KS

2427. Re: duplexers, antennas, repeaters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-21 20:33:17 UTC
From: dave <dave@dave.dave>
Message-ID: <9ZudnRohac2Q1-fTnZ2dnUVZ_qmdnZ2d@earthlink.com>
Source record: 3578

On Wed, 21 Sep 2011 13:09:58 -0700, Jeff Liebermann wrote:

> On Wed, 21 Sep 2011 07:49:49 -0500, dave <dave@dave.dave> wrote:
>
>>http://www.tek.com/products/spectrum-analyzer/sa2600/ The scope is
>>running Windows and can constantly compute intermod products (aka
>>predict spurs) based on the real time environment. It has an option for
>>advanced wireless signals.
>
> Nice. I didn't know that existed. However, the way it works isn't
> anything magic that can't be done with PC controlled spectrum analyzer.
> It also seems to have some serious limitations when looking at broadband
> noise (i.e. CDMA). The SA2600 looks at the display and records all the
> frequencies and amplitudes that it sees. It then computes the likely
> intermod products. This would be really cool for sites where carriers
> come and go (i.e. frequency hopping trunking systems, cellular handoffs,
> FHSS). However, I didn't see anything in the notes on how it would
> handle a broadband signal. If it were smart, it would measure the upper
> and lower frequencies of the broadband noise, and use that to predict
> similar broadband interference bands. However, I couldn't tell from the
> destructions if that's what they're doing. The box would certainly be
> handy for "monitoring" the receive frequency waiting for the intermod to
> appear. Of course the signal levels would need to be well controlled to
> prevent displaying mixing products in the SA front end. Much of what I
> see in the way of intermod would never show up on a spectrum analyzer.
> For example, you're not doing to see PIM on a SA.
>
> I don't think I can justify the cost on the basis of time saved. For
> example, I once isolated the source of intermod to another mountain top,
> about 20 miles away.
>
>>I could never get my boss to buy me one; they are enamored of Rohde Fish
>>313s.
>
> <http://nefl-dstar.com/blog/2010/07/01/the-fsh313-spectrum-analyzer/>
> $11,000 spectrum analyzer with tracking generator and you're
> complaining? You should try using some of my antique test equipment and
> see if your opinion changes. I don't think I have anything newer than
> about 20 years old.
> <http://802.11junk.com/jeffl/pics/home/slides/BL-shop6.html>

abt $9,200 street with tracking generator. I also had an Aerotron
(Marconi) for the bench. I am no longer keeping MiniCircuits in business.

2428. Re: Hey Jeff!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-22 05:25:16 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <avfl771o25c47bi9jkaq152s7eqp6o6ui0@4ax.com>
Source record: 3579

On Tue, 20 Sep 2011 18:48:26 -0500, amdx <amdx@knology.net> wrote:

> I'm curious, I'm in a marina that has an L shaped concrete parking lot
>with water on the inside of the L<-- right were the arrow points.
>I'm docked in the corner of the L, and want to send a signal everywhere
>but the the water.
>
> What does the pattern look like if I use a corner reflector but put
>the source on the outside of the corner rather than the inside?

Dunno, and I'm too lazy (and tired) to build an NEC2 model. I don't
think it would work the way you propose anyway.

My guess(tm) is that you want to send RF in two directions, 90 degrees
apart. That's easy. Use 2 directional antennas, such as patch or
panel antennas, and drive them with a power splitter. You'll get half
the transmit power to each antenna, but the receive sensitivity will
be the same as it would be with a single antenna (minus about 1dB for
the power divider loss).

> I'm at 433 Mhz now but may need to go to 2.4 Ghz.
>The app is a driveway sensor that triggers a pocket carried receiver no
>matter where I'm at on the L.

Ok. 433MHz has very limited range mostly because of the crappy
receivers, gutless transmitters, and miserable antennas. Improvements
to any of these will increase the range. I suggest a better antenna.

> As it stands the transmitter range is not far enough, I only need 50
>yards down leg of the L.

150 ft is difficult at 433Mhz. My cheapo La Crosse weather station is
only reliable up to about 20ft. My vehicle remote door unlocker is
good for only about 30ft. However, it is possible to buy long range
433MHz remote control switches, with much longer range. 2.4Ghz is
fine, but what are you going to use as a receiver?

Anyway, look at commercial wireless car alarms and notice that the
better variety have a small bi-directional remote, that can act as a
pager to receive alarms, and also be used as a transmitter to
enable/disable the alarm. These radios are probably better than
whatever you're using (and are probably on 900MHz). You might also
consider using a real pager and a POCSAG encoder.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com

Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2429. Re: Hey Jeff!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-22 12:00:54 UTC
From: amdx <amdx@knology.net>
Message-ID: <b8348$4e7b2302$18ec6dd7$30168@KNOLOGY.NET>
Source record: 3580

On 9/22/2011 12:25 AM, Jeff Liebermann wrote:
> On Tue, 20 Sep 2011 18:48:26 -0500, amdx<amdx@knology.net> wrote:
>
>> I'm curious, I'm in a marina that has an L shaped concrete parking lot
>> with water on the inside of the L<-- right were the arrow points.
>> I'm docked in the corner of the L, and want to send a signal everywhere
>> but the the water.
>>
>> What does the pattern look like if I use a corner reflector but put
>> the source on the outside of the corner rather than the inside?
>
> Dunno, and I'm too lazy (and tired) to build an NEC2 model. I don't
> think it would work the way you propose anyway.
>
> My guess(tm) is that you want to send RF in two directions, 90 degrees
> apart. That's easy. Use 2 directional antennas, such as patch or
> panel antennas, and drive them with a power splitter. You'll get half
> the transmit power to each antenna, but the receive sensitivity will
> be the same as it would be with a single antenna (minus about 1dB for
> the power divider loss).
>
>> I'm at 433 Mhz now but may need to go to 2.4 Ghz.
>> The app is a driveway sensor that triggers a pocket carried receiver no
>> matter where I'm at on the L.
>
> Ok. 433MHz has very limited range mostly because of the crappy
> receivers, gutless transmitters, and miserable antennas. Improvements
> to any of these will increase the range. I suggest a better antenna.
>
>> As it stands the transmitter range is not far enough, I only need 50
>> yards down leg of the L.
>
> 150 ft is difficult at 433Mhz. My cheapo La Crosse weather station is
> only reliable up to about 20ft. My vehicle remote door unlocker is
> good for only about 30ft. However, it is possible to buy long range
> 433MHz remote control switches, with much longer range. 2.4Ghz is
> fine, but what are you going to use as a receiver?

I would need to purchase a pair, transmitter/receiver. Thinking about
it now, maybe I'll just get a walkie talkie set with a call button and
hack that to trigger from the driveway sensor. I did that with my PUSH
FOR SERVICE button years ago, worked fine until one of the walkie
talkies died.

>
> Anyway, look at commercial wireless car alarms and notice that the
> better variety have a small bi-directional remote, that can act as a
> pager to receive alarms, and also be used as a transmitter to
> enable/disable the alarm. These radios are probably better than
> whatever you're using (and are probably on 900MHz). You might also
> consider using a real pager and a POCSAG encoder.
>
At one time I hacked my cordless phone system so my PUSH FOR SERVICE button closed the call button on the base unit and signaled the cordless phone I carried in my pocket. I was never happy with the range of my phone system though. The base is inside of my boat and the boat is a double layer of aluminum, signal does get out, but I'm sure it is attenuated.
I have had thoughts about removing the RF section of the phone and putting outside, but there seems to be a lot of wires. Don't know how it would work if I stuck 25 feet of ribbon cable between the phone and it's RF section. Might be able to get that down to 15 feet.
Seems like I buy a phone system every 3 or 4 years the buttons start getting flaky from living on the salt water. (the phone, not me)
So to state the problem;
I want to sense when a customer arrives and trigger an alarm I carry in my pocket at a maximum distance of 150 feet.
If I can get the distance, I like the phone idea because I can also answer phone calls.
I would attempt to run the RF signal outside, but I have not felt I know enough about the impedance's to get a net gain after attaching coax and an external antenna. Also I've noted 900Mhz transmit and 5.1 Mhz receive, or some such scheme. That makes the antenna difficult.

Just thinking in public :-)
Mikek

2430. You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-23 05:04:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t44o771agag400rucvonklcqoh1rtme780@4ax.com>
Source record: 3581

"Tiny Neutrinos May Have Broken Cosmic Speed Limit"
http://www.nytimes.com/2011/09/23/science/23speed.html?hpw

"the neutrinos raced from a particle accelerator at CERN outside Geneva, where they were created, to a cavern underneath Gran Sasso in Italy, a distance of about 450 miles, about 60 nanoseconds faster than it would take a light beam. That amounts to a speed greater than light by about 0.0025 percent (2.5 parts in a hundred thousand). "

I am impressed that they know the Permeability and Permittivity of that dirt path to 0.0025% at any time of year, and time of day, for any weather (for the speed of light comparison).

"Dr. Ellis noted that a similar experiment was reported by a collaboration known as Minos in 2007 on neutrinos created at Fermilab in Illinois and beamed through the Earth to the Soudan Mine in Minnesota. That group found, although with less precision, that the neutrino speeds were consistent with the speed of light."

They, obviously don't know their dirt (or it could be the effect of 10,000 lakes - umm, Italy has a lake district doesn't it?).

"Measurements of neutrinos emitted from a supernova in the Large Magellanic Cloud in 1987, moreover, suggested that their speeds differed from light by less than one part in a billion."

No dirt involved there (of course, I could be mistaken; it is a long way without a rest stop).

73's
Richard Clark, KB7QHC

2431. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-23 06:41:47 UTC
From: Sal <sobars@aol.com>
Message-ID: <j5h9lb$3ph$1@dont-email.me>
Source record: 3582

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:t44o771agag400rucvonklcqoh1rtme780@4ax.com...
> "Tiny Neutrinos May Have Broken Cosmic Speed Limit"
> http://www.nytimes.com/2011/09/23/science/23speed.html?hpw
>
> "the neutrinos raced from a particle accelerator at CERN outside
> Geneva, where they were created, to a cavern underneath Gran Sasso in
> Italy, a distance of about 450 miles, about 60 nanoseconds faster than
> it would take a light beam. That amounts to a speed greater than light
> by about 0.0025 percent (2.5 parts in a hundred thousand). "
>
> I am impressed that they know the Permeability and Permittivity of
> that dirt path to 0.0025% at any time of year, and time of day, for
> any weather (for the speed of light comparison).
>
> "Dr. Ellis noted that a similar experiment was reported by a
> collaboration known as Minos in 2007 on neutrinos created at Fermilab
> in Illinois and beamed through the Earth to the Soudan Mine in
> Minnesota. That group found, although with less precision, that the
> neutrino speeds were consistent with the speed of light."
>
> They, obviously don't know their dirt (or it could be the effect of
> 10,000 lakes - umm, Italy has a lake district doesn't it?).
>
> "Measurements of neutrinos emitted from a supernova in the Large
> Magellanic Cloud in 1987, moreover, suggested that their speeds
> differed from light by less than one part in a billion."
>
> No dirt involved there (of course, I could be mistaken; it is a long
> way without a rest stop).
>
> 73's
> Richard Clark, KB7QHC

Feynman also addressed some of this. He's one of my heroes.

2432. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-23 07:49:45 UTC
From: "shahzypk@hotmail.com" <shahzypk@hotmail.com>
Message-ID: <8fab5ef3-ed0f-40c3-b77c-17e295159da9@br5g2000vbb.googlegroups.com>
Source record: 3583

Just Visite These Sites
http://fashion1298.blogspot.com

http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2433. Re: My LDG Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-23 18:12:11 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4e7ccbfa$0$44211$4fafbaef@reader1.news.tin.it>
Source record: 3584

"Sal" <sobars@aol.com> ha scritto nel messaggio
news:j2258p$3s0$1@dont-email.me...
> I'm sharing a good experience I had with LDG.

I also had a good experience with LDG. They immediately shipped me spare relays
and capacitors at a very low price (+ postage for international shipment).

73

Tony I0JX
Rome, Italy

2434. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-24 06:20:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1dtq77d50thjj2c8d113mpdji4mrnrm613@4ax.com>
Source record: 3585

On Thu, 22 Sep 2011 23:41:47 -0700, "Sal" <sobars@aol.com> wrote:

>
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:t44o771agag400rucvonklcqoh1rtme780@4ax.com...
>> "Tiny Neutrinos May Have Broken Cosmic Speed Limit"
>> http://www.nytimes.com/2011/09/23/science/23speed.html?hpw
...
>> I am impressed that they know the Permeability and Permittivity of
>> that dirt path to 0.0025% at any time of year, and time of day, for
>> any weather (for the speed of light comparison).

News followup:
"After Report on Speed, a Rush of Scrutiny"
http://www.nytimes.com/2011/09/24/science/24speed.html?_r=1&hpw
...
"They asked detailed questions about, among other things, how the
scientists had measured the distance from CERN to Gran Sasso to what
is claimed to be an accuracy of 20 centimeters, extending GPS
measurements underground. Had they, for example taken into account the
location of the Moon and tidal bulges in the Earthï¿½s crust?"

>Feynman also addressed some of this. He's one of my heroes.

WWFD?

73's
Richard Clark, KB7QHC

2435. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-24 07:13:31 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4e7d831d$0$2497$65785112@news.neostrada.pl>
Source record: 3586

"Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:t44o771agag400rucvonklcqoh1rtme780@4ax.com...
> "Tiny Neutrinos May Have Broken Cosmic Speed Limit"
> http://www.nytimes.com/2011/09/23/science/23speed.html?hpw
>
> "the neutrinos raced from a particle accelerator at CERN outside
> Geneva, where they were created, to a cavern underneath Gran Sasso in
> Italy, a distance of about 450 miles, about 60 nanoseconds faster than
> it would take a light beam. That amounts to a speed greater than light
> by about 0.0025 percent (2.5 parts in a hundred thousand). "
>
> I am impressed that they know the Permeability and Permittivity of
> that dirt path to 0.0025% at any time of year, and time of day, for
> any weather (for the speed of light comparison).

Michelson-Gale dicovered in 1925 that The Earth's rotation effects the speed
of light.
It becomes in agreement with SR.

So neutrinos travel with speed c and Gran Sasso with 0.3 km/s toward them.
The time to metting is shorter.
>
> "Dr. Ellis noted that a similar experiment was reported by a
> collaboration known as Minos in 2007 on neutrinos created at Fermilab
> in Illinois and beamed through the Earth to the Soudan Mine in
> Minnesota. That group found, although with less precision, that the
> neutrino speeds were consistent with the speed of light."

If the road is trough the Earth there no Michelson-Gale effect.
>
> They, obviously don't know their dirt (or it could be the effect of
> 10,000 lakes - umm, Italy has a lake district doesn't it?).
>
> "Measurements of neutrinos emitted from a supernova in the Large
> Magellanic Cloud in 1987, moreover, suggested that their speeds
> differed from light by less than one part in a billion."

There may be the effect. But only in the time when the rotational speed is
towards to supernowa.
>
> No dirt involved there (of course, I could be mistaken; it is a long
> way without a rest stop).

To you buy it?
S*

2436. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 04:09:25 UTC
From: Eric R Gray <E_Gray@bigpond.com>
Message-ID: <RPxfq.3013$NR2.2616@viwinnwfe01.internal.bigpond.com>
Source record: 3587

More info on measurements of speed of neutrinos

Recording of live web cast couple of days ago from CERN re measurements
http://cdsweb.cern.ch/record/1384486

Other info
http://public.web.cern.ch/public/
http://arxiv.org/abs/1109.4897 (can down load detailed PDF, "cast of thousands" participating listed at start)

Be very interesting if results are confirmed

Regards

Eric R Gray (VK3ZSB)

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:t44o771agag400rucvonklcqoh1rtme780@4ax.com...
> "Tiny Neutrinos May Have Broken Cosmic Speed Limit"
> http://www.nytimes.com/2011/09/23/science/23speed.html?hpw
>
> "the neutrinos raced from a particle accelerator at CERN outside
> Geneva, where they were created, to a cavern underneath Gran Sasso in
> Italy, a distance of about 450 miles, about 60 nanoseconds faster than
> it would take a light beam. That amounts to a speed greater than light
> by about 0.0025 percent (2.5 parts in a hundred thousand). "
>
> I am impressed that they know the Permeability and Permittivity of
> that dirt path to 0.0025% at any time of year, and time of day, for
> any weather (for the speed of light comparison).
>
> "Dr. Ellis noted that a similar experiment was reported by a
> collaboration known as Minos in 2007 on neutrinos created at Fermilab
> in Illinois and beamed through the Earth to the Soudan Mine in
> Minnesota. That group found, although with less precision, that the
> neutrino speeds were consistent with the speed of light."
>
> They, obviously don't know their dirt (or it could be the effect of
> 10,000 lakes - umm, Italy has a lake district doesn't it?).
>
> "Measurements of neutrinos emitted from a supernova in the Large
> Magellanic Cloud in 1987, moreover, suggested that their speeds
> differed from light by less than one part in a billion."
>
> No dirt involved there (of course, I could be mistaken; it is a long

> way without a rest stop).
>
> 73's
> Richard Clark, KB7QHC

2437. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 05:56:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <66gt775brfsbt0v6fevkjvi0cbg22ltpp5@4ax.com>
Source record: 3588

On Sun, 25 Sep 2011 14:09:25 +1000, "Eric R Gray" <E_Gray@bigpond.com>
wrote:

>Be very interesting if results are confirmed

The simple questions being asked (dirt being dirt and the tidal bulge
being triple the distance the neutrinos sped up) would seem to bury
that possibility.

73's
Richard Clark, KB7QHC

2438. Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 13:45:19 UTC
From: Tuuk <abra@cadabra.com>
Message-ID: <NfGfq.21160$EP3.14447@newsfe05.iad>
Source record: 3589

Hi,
I have a big self supporting tower in the yard, it is grounded by grounding rods and of course itself. I am attaching two satelite dishes to the tower. The most practical way is using 2x4 wood, this will work great just screwing them to the wood and it will squeeze itself to the brackets and support nicely. I am wondering about the connection to the tower because there will not be grounded to the tower. There wont be any connection (metal to metal) form the satelite dish and the tower, that leads me to believe that the only grounding would be the shielded cable which gets grounded to the nice new 50" plazma.

My question is should i ground that? Should the satelite dish itself be grounded to the tower? Is there any reason for this? Safety wise or interference wise? It would be very simple to do, but not sure if I should or want to. Please give me advice as to either ground the dish to tower or not to. Does anyone think there will be issues? Should I or shouldn't I?

Thanks for any advice.

2439. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 14:43:30 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <ZbidndcvlNqMo-LTnZ2dnUVZ_tednZ2d@earthlink.com>
Source record: 3590

```
" Tuuk" <abra@cadabra.com> wrote in message
news:NfGfq.21160$EP3.14447@newsfe05.iad...
> Hi,
> I have a big self supporting tower in the yard, it is grounded by
> grounding rods and of course itself. I am attaching two satelite dishes to
> the tower. The most practical way is using 2x4 wood, this will work great
> just screwing them to the wood and it will squeeze itself to the brackets
> and support nicely. I am wondering about the connection to the tower
> because there will not be grounded to the tower. There wont be any
> connection (metal to metal) form the satelite dish and the tower, that
> leads me to believe that the only grounding would be the shielded cable
> which gets grounded to the nice new 50" plazma.
>
> My question is should i ground that? Should the satelite dish itself be
> grounded to the tower? Is there any reason for this? Safety wise or
> interference wise? It would be very simple to do, but not sure if I should
> or want to. Please give me advice as to either ground the dish to tower or
> not to. Does anyone think there will be issues? Should I or shouldn't I?
>
> Thanks for any advice.
>

Thre can never be too much grounding when it comes to lightning. You want
to bond everything together. That way any near by discharges gets grounded
and all the equipment goes up and down with the dishcharge at the same time.
Voltage does not hirt the equipment ,it is just the differance in the
voltages that does.

I think I would ground the dishes/coax to the tower and then atleast once
more just before it comes into the house. Grounding at the bottom of the
tower would also be good if the coax goes all the way to the ground.
```

2440. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 21:11:34 UTC
From: dave <dave@dave.dave>
Message-ID: <ALednU8QKsubBOLTnZ2dnUVZ_vydnZ2d@earthlink.com>
Source record: 3591

On Sun, 25 Sep 2011 09:45:19 -0400, Tuuk wrote:

> Hi,
> I have a big self supporting tower in the yard, it is grounded by
> grounding rods and of course itself. I am attaching two satelite dishes
> to the tower. The most practical way is using 2x4 wood, this will work
> great just screwing them to the wood and it will squeeze itself to the
> brackets and support nicely. I am wondering about the connection to the
> tower because there will not be grounded to the tower. There wont be any
> connection (metal to metal) form the satelite dish and the tower, that
> leads me to believe that the only grounding would be the shielded cable
> which gets grounded to the nice new 50" plazma.
>
> My question is should i ground that? Should the satelite dish itself be
> grounded to the tower? Is there any reason for this? Safety wise or
> interference wise? It would be very simple to do, but not sure if I
> should or want to. Please give me advice as to either ground the dish to
> tower or not to. Does anyone think there will be issues? Should I or
> shouldn't I?
>
> Thanks for any advice.

I would [hah!] try to avoid using lumber. Have you ever played with
Unistrut?

2441. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 23:24:01 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j5od6g$686$1@dont-email.me>
Source record: 3592

On 9/25/2011 4:11 PM, dave wrote:
> I would [hah!] try to avoid using lumber. Have you ever played with
> Unistrut?

Figures.

Several commercial tower sites I used to service used wooden
cross supports between telephone poles. The antennas were
bolted directly to the wood cross pieces.

And no, there was no grounding straps/bonds across the supports.
The only grounds the antennas saw was the "ground window" going
into the building.

Jeff

--
"Everything from Crackers to Coffins"

2442. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 23:29:35 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <5l2dnYP2usvCJOLTnZ2dnUVZ_sSdnZ2d@earthlink.com>
Source record: 3593

"Jeffrey Angus" <grendelair@aim.com> wrote in message
news:j5od6g$686$1@dont-email.me...
> On 9/25/2011 4:11 PM, dave wrote:
>> I would [hah!] try to avoid using lumber. Have you ever played with
>> Unistrut?
>
> Figures.
>
> Several commercial tower sites I used to service used wooden
> cross supports between telephone poles. The antennas were
> bolted directly to the wood cross pieces.
>
> And no, there was no grounding straps/bonds across the supports.
> The only grounds the antennas saw was the "ground window" going
> into the building.
>
> Jeff

The thing with lumber is that it can hold moisture and cause the tower to
rust where the wood is.
Also if it is treated wood, the chemicals may cause the same thing only
faster.

2443. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-25 23:46:17 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j5oega$eg9$1@dont-email.me>
Source record: 3594

On 9/25/2011 6:29 PM, Ralph Mowery wrote:
> "Jeffrey Angus"<grendelair@aim.com> wrote in message
>> Several commercial tower sites I used to service used wooden
>> cross supports between telephone poles.
>
> The thing with lumber is that it can hold moisture and cause the tower to
> rust where the wood is.
> Also if it is treated wood, the chemicals may cause the same thing only
> faster.

Each cross brace has about a dozen 2" diameter galvanized stubs to
attach the antennas to. They are bolted directly to the cross braces.

All the wood was treated with Creosote just like the poles themselves.
The site was at least 40 years old the last time I was up there in 2005.

The stubs didn't look any worse than the usual stubs bolted to metal
tower assemblies.

Jeff

--
"Everything from Crackers to Coffins"

2444. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 01:00:00 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <a7CdnUz3McESU-LTnZ2dnUVZ_r-dnZ2d@earthlink.com>
Source record: 3595

"Jeffrey Angus" <grendelair@aim.com> wrote in message
news:j5oega$eg9$1@dont-email.me...
> On 9/25/2011 6:29 PM, Ralph Mowery wrote:
>> "Jeffrey Angus"<grendelair@aim.com> wrote in message
>>> Several commercial tower sites I used to service used wooden
>>> cross supports between telephone poles.
>>
>> The thing with lumber is that it can hold moisture and cause the tower to
>> rust where the wood is.
>> Also if it is treated wood, the chemicals may cause the same thing only
>> faster.
>
> Each cross brace has about a dozen 2" diameter galvanized stubs to
> attach the antennas to. They are bolted directly to the cross braces.
>
> All the wood was treated with Creosote just like the poles themselves.
> The site was at least 40 years old the last time I was up there in 2005.
>
> The stubs didn't look any worse than the usual stubs bolted to metal
> tower assemblies.

I think Creosote is mostly a form of oil. Probalby helps iron not to rust.

The newer treated wood needs special screws depending on the chemicals used.
Thank the EPA for that.

2445. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 01:28:15 UTC
From: dave <dave@dave.dave>
Message-ID: <6YWdncCnDamySOLTnZ2dnUVZ_uWdnZ2d@earthlink.com>
Source record: 3596

On Sun, 25 Sep 2011 18:24:01 -0500, Jeffrey Angus wrote:

> On 9/25/2011 4:11 PM, dave wrote:
>> I would [hah!] try to avoid using lumber. Have you ever played with
>> Unistrut?
>
> Figures.
>
> Several commercial tower sites I used to service used wooden cross
> supports between telephone poles. The antennas were bolted directly to
> the wood cross pieces.
>
> And no, there was no grounding straps/bonds across the supports. The
> only grounds the antennas saw was the "ground window" going into the
> building.
>
> Jeff

I'm not sure I'd want to hang a TVRO dish on one. Have you ever been on
the upper levels inside the Post Office building on Mt. Wilson?

2446. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 02:06:32 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <qlmv77hkurhc1k0n07m23pdehrfr65ar9b@4ax.com>
Source record: 3597

On Sun, 25 Sep 2011 18:46:17 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>Each cross brace has about a dozen 2" diameter galvanized stubs to
>attach the antennas to. They are bolted directly to the cross braces.
>
>All the wood was treated with Creosote just like the poles themselves.
>The site was at least 40 years old the last time I was up there in 2005.

You mean like this?
<http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn02.html>
<http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn03.html>
We had similar derrangements at 3-4 other sites. Telephone poles and
lumber were about 20% of the cost of a galvanized steel tower.

Lightning protection was at the entry point to the building with a
metal plate with some PolyPhasor feed through protectors. The end and
highest antennas were also grounded with a undersized #4 copper wire
running down the pole to a ground rod at the base. We didn't get any
lightning hits because there was an all metal forestry lookout at the
highest point on Santiago which took all the hits.

>The stubs didn't look any worse than the usual stubs bolted to metal
>tower assemblies.

We used the same hardware that was used the Ma Bell. Thick galvanized
and loose fitting steel hardware. Same as what the typical steel
tower is made from these days. It works nicely on both metal and
telephone poles.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2447. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 02:33:32 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <7inv77ph526f12b61k9h5pjnbegk5d029b@4ax.com>
Source record: 3598

On Sun, 25 Sep 2011 09:45:19 -0400, " Tuuk" <abra@cadabra.com> wrote:

>I have a big self supporting tower in the yard, it is grounded by grounding
>rods and of course itself. I am attaching two satelite dishes to the tower.
>The most practical way is using 2x4 wood,

It won't work. The problem is that wood towers move. If the satellite dish just happens to have a very narrow beamwidth, such as with a point to point link or DBS dish, that movement is going to misalign the dish. I had a (non-paying) customer with such a derrangement. Instead of a steel pipe and concrete filled hole mounting as recommended, he installed it on top of a 20ft 4x4. I was asked to align the dish properly, which turned into a exercise in futility. The wood was still fairly green. Every time the sun shined on one side of the 4x4, it would contract on that side only. I bought a MEMS inclinometer and setup a laser pointer to measure the changes. My guess is about a 3 degree max change at the top. Note that the beamwidth of the common 24dBi 2.4Ghz dish is about 5 degrees, which means you have to be accurate to at least +/- 2.5 degrees.

>this will work great just screwing
>them to the wood and it will squeeze itself to the brackets and support
>nicely.

Using a piece of 2x4 as a yard arm will probably not produce as drastic a change. It will be somewhat less, but it will still be present. In addition, you'll have the never ending problem of securing the 2x4 properly with bolts. As the wood dries out, you'll be tightening the bolts, and re-tweaking the dish alignment.

>I am wondering about the connection to the tower because there will
>not be grounded to the tower. There wont be any connection (metal to metal)
>form the satelite dish and the tower, that leads me to believe that the only
>grounding would be the shielded cable which gets grounded to the nice new
>50" plazma.

OK, it's a DBS dish. The typical 18" pizza dish has a beam width of about 4 degrees. If it's a multiple LNB dish as used to get HDTV channels, about 3 degrees. That means you'll need to be accurate to about +/- 1.5 degrees. Wood won't work.

It will also be rather amusing to watch you try to align a dish to 1.5 degrees accuracy at the end of the 2x4. The usual method of pre-setting the elevation, and spinning the dish for max signal to get the azimuth will work only if the mounting pipe is absolutely vertical. That's not easy to do or adjust with a 2x4 hanging out away

from the tower.

>My question is should i ground that?

Running a heavy copper wire up the tower and across the 2x4 might be a problem. That's because of the right angle turn at the tower. Lightning doesn't like to make right angle turns and will probably jump to the tower. I don't really know if this should be a concern.

The local DBS installers just use a #10 copper wire to the nearest earth ground. The cable guys just ground the F connector at the building entry. They're not really designed to take a lightning hit, just to bleed off any static electricity that might accumulate or to deal with an indirect hit.

>Should the satelite dish itself be
>grounded to the tower? Is there any reason for this? Safety wise or
>interference wise? It would be very simple to do, but not sure if I should
>or want to. Please give me advice as to either ground the dish to tower or
>not to. Does anyone think there will be issues? Should I or shouldn't I?

Well, if you're going to go through all that trouble to install a proper ground, you can do as well using Unistrut instead of a 2x4. <http://www.unistrut.us>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2448. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 02:40:06 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <kepv77hj5ee2tmparmr4ekakd8d1mnl679@4ax.com>
Source record: 3599

On Sun, 25 Sep 2011 20:28:15 -0500, dave <dave@dave.dave> wrote:

>I'm not sure I'd want to hang a TVRO dish on one. Have you ever been on
>the upper levels inside the Post Office building on Mt. Wilson?

<http://www.cellsiteanalysis.net/cell_site_analysis_images/Cell_Site_Mast_Loaded.jpg>
(It's not Mt Wilson. It's in Turin Italy).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2449. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 03:11:11 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j5oqghamr1@dont-email.me>
Source record: 3600

On 9/25/2011 9:06 PM, Jeff Liebermann wrote:
> On Sun, 25 Sep 2011 18:46:17 -0500, Jeffrey Angus<grendelair@aim.com>
> wrote:
>
>> Each cross brace has about a dozen 2" diameter galvanized stubs to
>> attach the antennas to. They are bolted directly to the cross braces.
>>
>> All the wood was treated with Creosote just like the poles themselves.
>> The site was at least 40 years old the last time I was up there in 2005.
>
> You mean like this?
> <http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn02.html>
> <http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn03.html>
> We had similar derrangements at 3-4 other sites. Telephone poles and
> lumber were about 20% of the cost of a galvanized steel tower.

Been on Loop Mountain too. And Oat, Lukens and Mt. Wilson.
The "tower" I was referring to specifically though was Hollywood
Hills.

> Lightning protection was at the entry point to the building with a
> metal plate with some PolyPhasor feed through protectors. The end and
> highest antennas were also grounded with a undersized #4 copper wire
> running down the pole to a ground rod at the base. We didn't get any
> lightning hits because there was an all metal forestry lookout at the
> highest point on Santiago which took all the hits.

The grounding inside and outside the building was your typical "Amateur"
installation. 3/4" water pipe with 90 degree elbows soldered together.

Our real protection was the water tank owned by the DWP slightly up
the hill from us. Similar to ranger tower protecting Santiago.
>
>> The stubs didn't look any worse than the usual stubs bolted to metal
>> tower assemblies.
>
> We used the same hardware that was used the Ma Bell. Thick galvanized
> and loose fitting steel hardware. Same as what the typical steel
> tower is made from these days. It works nicely on both metal and
> telephone poles.

Yup. Works moderately well until you get some clown in the building
that runs an 8-way receive antenna and 8 bandit taxi cab repeaters.

Jeff

--
"Everything from Crackers to Coffins"

2450. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 03:14:45 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j5oqn4amr2@dont-email.me>
Source record: 3601

On 9/25/2011 8:28 PM, dave wrote:
> I'm not sure I'd want to hang a TVRO dish on one. Have you ever been on
> the upper levels inside the Post Office building on Mt. Wilson?

As the other Jeff pointed out, there's reasons to NOT use wood,
but it's not because wood is bad. Purely a dimensional change
problem.

Although, I suspect that the original poster is thinking of
strapping a 2x4 across two legs of the tower and using just enough
"arm" to get the dish to clear the tower. It may work, and it may
be a nightmare trying to accurately align it.

Jeff

--
"Everything from Crackers to Coffins"

2451. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 03:53:24 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <gksv771m2maoot8gipecmlqohmjooifehu@4ax.com>
Source record: 3602

On Sun, 25 Sep 2011 22:11:11 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>> <http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn02.html>
>> <http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/LoopMtn03.html>

>Been on Loop Mountain too. And Oat, Lukens and Mt. Wilson.
>The "tower" I was referring to specifically though was Hollywood
>Hills.

There were plenty of telephone pole antenna "towers" in the Hollywood
Hills during the 1960's and 70's. Most are probably still there. A
steel tower required an elaborate ordeal process compliments of the
planning department. Telephone poles were deemed to be something akin
to a tree, and were easier to permit.

During the 1960's, Ken Sessions (SK) had a GE outdoor box mounted on
top of a telephone pole just below Loop Mountain. His problem wasn't
lightning hits. It was hits from .22, .38, and larger. He reinforced
the inside of the box with armor plate, which worked until someone
used AP ammunition. We offered him cheap space in Gene Clothier's
site on Loop, but Ken refused for some unknown reason.

>The grounding inside and outside the building was your typical "Amateur"
>installation. 3/4" water pipe with 90 degree elbows soldered together.

Lousy cross sectional area. Hopefully, they left one end open. If
the copper pipe were sealed at both ends, and it took a lightning hit,
the air inside would get rapidly very hot and probably turn the pipe
into a fragmentation bomb. If they really want to blow out the wall,
fill it with water.

>Our real protection was the water tank owned by the DWP slightly up
>the hill from us. Similar to ranger tower protecting Santiago.

Bowmont water tank, off Mullholland between Laurel and Coldwater
Canyons?

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2452. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 04:31:14 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j5ov6j$v44$1@dont-email.me>
Source record: 3603

On 9/25/2011 10:53 PM, Jeff Liebermann wrote:
> On Sun, 25 Sep 2011 Jeffrey Angus<grendelair@aim.com> wrote:
>> The grounding inside and outside the building was your typical "Amateur"
>> installation. 3/4" water pipe with 90 degree elbows soldered together.
>
> Lousy cross sectional area. Hopefully, they left one end open. If
> the copper pipe were sealed at both ends, and it took a lightning hit,
> the air inside would get rapidly very hot and probably turn the pipe
> into a fragmentation bomb. If they really want to blow out the wall,
> fill it with water.

Of course the end wasn't open. And there was a pair of Tee's in
the middle so it could zig zag across the ceiling. There was a
second ground pipe running around the outside of the building.

Other sites had a decent ground using #4 solid copper wire and
exothermic connectors. This, obviously, was not one of them.

>> Our real protection was the water tank owned by the DWP slightly up
>> the hill from us. Similar to ranger tower protecting Santiago.
>
> Bowmont water tank, off Mullholland between Laurel and Coldwater
> Canyons?

I don't think so. This one was off of Cyprean Dr. Via Hollywood Blvd.
<http://g.co/maps/dw5py> 2050 CYPREAN DR. LOS ANGELES, CA

If that link works properly, you can see a nice clear picture of the
antenna rack.

Jeff-1.0

--
"Everything from Crackers to Coffins"

2453. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 12:59:44 UTC
From: dave <dave@dave.dave>
Message-ID: <Etednflmx47d6h3TnZ2dnUVZ_qOdnZ2d@earthlink.com>
Source record: 3604

On Sun, 25 Sep 2011 20:53:24 -0700, Jeff Liebermann wrote:

> On Sun, 25 Sep 2011 22:11:11 -0500, Jeffrey Angus <grendelair@aim.com>
> wrote:
>
>>> <http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/
LoopMtn02.html>
>>> <http://802.11junk.com/jeffl/pics/Old%20Repeaters/slides/
LoopMtn03.html>
>
>>Been on Loop Mountain too. And Oat, Lukens and Mt. Wilson. The "tower" I
>>was referring to specifically though was Hollywood Hills.
>
> There were plenty of telephone pole antenna "towers" in the Hollywood
> Hills during the 1960's and 70's. Most are probably still there. A
> steel tower required an elaborate ordeal process compliments of the
> planning department. Telephone poles were deemed to be something akin
> to a tree, and were easier to permit.
>
> During the 1960's, Ken Sessions (SK) had a GE outdoor box mounted on top
> of a telephone pole just below Loop Mountain. His problem wasn't
> lightning hits. It was hits from .22, .38, and larger. He reinforced
> the inside of the box with armor plate, which worked until someone used
> AP ammunition. We offered him cheap space in Gene Clothier's site on
> Loop, but Ken refused for some unknown reason.
>
>>The grounding inside and outside the building was your typical "Amateur"
>>installation. 3/4" water pipe with 90 degree elbows soldered together.
>
> Lousy cross sectional area. Hopefully, they left one end open. If the
> copper pipe were sealed at both ends, and it took a lightning hit, the
> air inside would get rapidly very hot and probably turn the pipe into a
> fragmentation bomb. If they really want to blow out the wall, fill it
> with water.
>
>>Our real protection was the water tank owned by the DWP slightly up the
>>hill from us. Similar to ranger tower protecting Santiago.
>
> Bowmont water tank, off Mullholland between Laurel and Coldwater
> Canyons?

K-Joy site? You must know Western Technical Services if you used to play
in Orange County. They build steel towers. If you order a mesh dish they
send an unmarked vehicle.

2454. Hai see here get sum inf in side

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 15:31:51 UTC
From: spsing sing <spsing07@gmail.com>
Message-ID: <5e2024d3-d496-4fac-9eb3-e044e072597d@n12g2000yqh.googlegroups.com>
Source record: 3605

www.oneadds.info

2455. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 16:27:52 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <408187docoqno84mksech45ga3lb965hkm@4ax.com>
Source record: 3606

On Mon, 26 Sep 2011 07:59:44 -0500, dave <dave@dave.dave> wrote:

>K-Joy site? You must know Western Technical Services if you used to play
>in Orange County. They build steel towers. If you order a mesh dish they
>send an unmarked vehicle.

Never heard of them, but that was 40 years ago. We did our own
antennas all of which were on wood poles. Same with everyone else on
Santiago Pk in the late 1960's. Even the Air Force building used
multiple short telephone poles, with one antenna per pole, a really
bad idea. I worked for PMC (Pacific Mobile Comm) in Stanton CA at the
time.
<http://11junk.com/jeffl/pics/Old%20Repeaters/slides/PMC02.html>

Why would they send an unmarked vehicle to install a mesh dish?

I think (not sure) that I found a recent (4/2009) photo of the PMC
building on Santiago:
<http://images.summitpost.org/original/503620.jpg>
Note the large number of wooden poles and outriggers that are still in
use. I was going to mumble something like "nobody mounts dishes on
wood poles", but it seems that there are two in the photo. Sigh. The
wood structure looks much the same as it did 40 years ago minus the
wall of far too closely spaced, intermod generating, antennas.

Recent structures are all steel.
<http://images.summitpost.org/original/503619.jpg>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2456. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 19:04:21 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j5qibl$j2n$1@news.jpl.nasa.gov>
Source record: 3607

On 9/25/2011 7:06 PM, Jeff Liebermann wrote:
The end and
> highest antennas were also grounded with a undersized #4 copper wire
> running down the pole to a ground rod at the base. We didn't get any
> lightning hits because there was an all metal forestry lookout at the
> highest point on Santiago which took all the hits.

#4 is plenty big enough for lightning grounding. The current is high,
but the duration is short. You see larger lightning conductors for
mechanical reasons (e.g. where it might get damaged, or where it has to
move repeatedly).

2457. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 19:13:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j5qisn$k1a$1@news.jpl.nasa.gov>
Source record: 3608

On 9/24/2011 10:56 PM, Richard Clark wrote:
> On Sun, 25 Sep 2011 14:09:25 +1000, "Eric R Gray"<E_Gray@bigpond.com>
> wrote:
>
>> Be very interesting if results are confirmed
>
> The simple questions being asked (dirt being dirt and the tidal bulge
> being triple the distance the neutrinos sped up) would seem to bury
> that possibility.
>
> 73's
> Richard Clark, KB7QHC

I think one can safely assume that the folks doing the experiment are aware of all those potential error sources.

http://arxiv.org/abs/1109.4897 has most of the details

For instance:
"The distance between the target focal point and the OPERA reference frame was precisely measured in 2010 following a dedicated geodesy campaign."

the distance is 730534.61 +/- 0.20 meters, by the way.

"The high-accuracy time-transfer GPS receiver allows to continuously monitor tiny movements of the Earthï¿½s crust, such as continental drift that shows up as a smooth variation of less than 1 cm/year, and the detection of slightly larger effects due to earthquakes. The April 2009 earthquake in the region of LNGS, in particular, produced a sudden displacement of about 7 cm, as seen in Fig. 7. All mentioned effects are within the accuracy of the baseline determination. Tidal effects are negligible as well."

2458. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 21:07:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <chn18710dm004e4lvm2c088lvoikvlqtuo@4ax.com>
Source record: 3609

On Mon, 26 Sep 2011 12:13:26 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>I think one can safely assume that the folks doing the experiment are
>aware of all those potential error sources.

The odds are distinctly against that being true.

At the end of the day, the measurement is going to expose a design
flaw (recall the Hubble Lens?), not shake the foundations of Physics.

73's
Richard Clark, KB7QHC

2459. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-26 22:45:08 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <o6v187t13eq9v14bbffstgl9951eo9gn4a@4ax.com>
Source record: 3610

On Mon, 26 Sep 2011 12:04:21 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>On 9/25/2011 7:06 PM, Jeff Liebermann wrote:
> The end and
>> highest antennas were also grounded with a undersized #4 copper wire
>> running down the pole to a ground rod at the base. We didn't get any
>> lightning hits because there was an all metal forestry lookout at the
>> highest point on Santiago which took all the hits.

>#4 is plenty big enough for lightning grounding. The current is high,
>but the duration is short. You see larger lightning conductors for
>mechanical reasons (e.g. where it might get damaged, or where it has to
>move repeatedly).

One of the neighboring towers took a direct hit. The #6 AWG he was
using literally exploded, spraying melted copper everywhere and
blowing pieces of concrete block all over the building.

<http://en.wikipedia.org/wiki/American_wire_gauge#Table_of_AWG_wire_sizes>
Fusing current (32msec) for #4 is 34,000 Amps. The average lightning
hit is about 20,000A but can go up to 200,000A.
<http://www.lightningsafety.com/nlsi_info/media.html>
Other references offer averages from 5,000 to 50,000A. I would call
#4 marginal but probably adequate for California, which doesn't get
much lightning.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2460. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 05:08:23 UTC
From: Sal <sobars@aol.com>
Message-ID: <j5rllt$305$1@dont-email.me>
Source record: 3611

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:7inv77ph526f12b61k9h5pjnbegk5d029b@4ax.com...

< snip >

> Well, if you're going to go through all that trouble to install a
> proper ground, you can do as well using Unistrut instead of a 2x4.
> <http://www.unistrut.us>

Unistrut is wonderful. About 20 years ago, I used to engineer installations
in a big government lab in San Diego and it was the customer's preferred
method for anything structural that didn't involve concrete. :-)

I learned you could do anything with Unistrut. It's the Erector Set / Lego
Blocks for grown-up kids.

"Sal"

2461. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 06:02:28 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <8vo287lfa7smo8u0s7qp95kv6jrecl0l8g@4ax.com>
Source record: 3612

On Mon, 26 Sep 2011 22:08:23 -0700, "Sal" <sobars@aol.com> wrote:

>"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
>news:7inv77ph526f12b61k9h5pjnbegk5d029b@4ax.com...
>> Well, if you're going to go through all that trouble to install a
>> proper ground, you can do as well using Unistrut instead of a 2x4.
>> <http://www.unistrut.us>
>
>Unistrut is wonderful. About 20 years ago, I used to engineer installations
>in a big government lab in San Diego and it was the customer's preferred
>method for anything structural that didn't involve concrete. :-)
>
>I learned you could do anything with Unistrut. It's the Erector Set / Lego
>Blocks for grown-up kids.
>
>"Sal"

Agreed. However, you have to be careful using Unistrut for outriggers
on towers. Unistrut doesn't do well when twisted (in torsion) by a
top heavy antenna. The only way that seems to work well on a tower
are two 1 1/2" channel Unistrut outriggers, with a connecting pipe for
mounting the antenna, dish, or whatever. A single outrigger usually
results in a the antenna twisting around in the wind. (1 1/4" will
work with light antennas).

Something like this:
<http://i668.photobucket.com/albums/vv44/ahwwwjeah/My%20Tower/DSCF6120.jpg>
--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2462. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 11:53:06 UTC
From: Tuuk <abra@cadabra.com>
Message-ID: <xOigq.30243$eS.10455@newsfe03.iad>
Source record: 3613

Thanks for all the info

I am going to ground out the satellite dish to the tower.

Now it is grounded to my new plazma and I would feel more comfortable with
it grounded to the tower. Don't want nothing happening to that new plazma.
Now of course if it ever got hit by lightning I would imagine the receiver
would get fried, maybe not the tv, the coax goes into the receiver, then
into the yamaha sourround sound then into the tv. A jolt has to stop
somewhere along that line.

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:8vo287lfa7smo8u0s7qp95kv6jrecl0l8g@4ax.com...
> On Mon, 26 Sep 2011 22:08:23 -0700, "Sal" <sobars@aol.com> wrote:
>
>>"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
>>news:7inv77ph526f12b61k9h5pjnbegk5d029b@4ax.com...
>>> Well, if you're going to go through all that trouble to install a
>>> proper ground, you can do as well using Unistrut instead of a 2x4.
>>> <http://www.unistrut.us>
>>
>>Unistrut is wonderful. About 20 years ago, I used to engineer
>>installations
>>in a big government lab in San Diego and it was the customer's preferred
>>method for anything structural that didn't involve concrete. :-)
>>
>>I learned you could do anything with Unistrut. It's the Erector Set /
>>Lego
>>Blocks for grown-up kids.
>>
>>"Sal"
>
> Agreed. However, you have to be careful using Unistrut for outriggers
> on towers. Unistrut doesn't do well when twisted (in torsion) by a
> top heavy antenna. The only way that seems to work well on a tower
> are two 1 1/2" channel Unistrut outriggers, with a connecting pipe for
> mounting the antenna, dish, or whatever. A single outrigger usually
> results in a the antenna twisting around in the wind. (1 1/4" will
> work with light antennas).
>
> Something like this:
> <http://i668.photobucket.com/albums/vv44/ahwwwjeah/My%20Tower/DSCF6120.jpg>
> --
> Jeff Liebermann jeffl@cruzio.com
> 150 Felker St #D http://www.LearnByDestroying.com

> Santa Cruz CA 95060 http://802.11junk.com
> Skype: JeffLiebermann AE6KS 831-336-2558
>

2463. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 20:10:30 UTC
From: Sal <sobars@aol.com>
Message-ID: <j5tait$f6j$1@dont-email.me>
Source record: 3614

" Tuuk" <abra@cadabra.com> wrote in message
news:xOigq.30243$eS.10455@newsfe03.iad...
> Thanks for all the info
>
> I am going to ground out the satellite dish to the tower.
>
> Now it is grounded to my new plazma and I would feel more comfortable with
> it grounded to the tower. Don't want nothing happening to that new plazma.
> Now of course if it ever got hit by lightning I would imagine the receiver
> would get fried, maybe not the tv, the coax goes into the receiver, then
> into the yamaha sourround sound then into the tv. A jolt has to stop
> somewhere along that line.

I know what an opto-isolator is. (Provides a signal path with a short-range modulated light beam -- no copper connection) I don't know if any have been designed/sold for lightning protection.

Anybody?

"Sal"
(KD6VKW)

2464. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 21:01:30 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j5tdj9rrp1@news.jpl.nasa.gov>
Source record: 3616

On 9/26/2011 3:45 PM, Jeff Liebermann wrote:
> On Mon, 26 Sep 2011 12:04:21 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:
>
>> On 9/25/2011 7:06 PM, Jeff Liebermann wrote:
>> The end and
>>> highest antennas were also grounded with a undersized #4 copper wire
>>> running down the pole to a ground rod at the base. We didn't get any
>>> lightning hits because there was an all metal forestry lookout at the
>>> highest point on Santiago which took all the hits.
>
>> #4 is plenty big enough for lightning grounding. The current is high,
>> but the duration is short. You see larger lightning conductors for
>> mechanical reasons (e.g. where it might get damaged, or where it has to
>> move repeatedly).
>
> One of the neighboring towers took a direct hit. The #6 AWG he was
> using literally exploded, spraying melted copper everywhere and
> blowing pieces of concrete block all over the building.
>
> <http://en.wikipedia.org/wiki/American_wire_gauge#Table_of_AWG_wire_sizes>
> Fusing current (32msec) for #4 is 34,000 Amps. The average lightning
> hit is about 20,000A but can go up to 200,000A.

One might want to check a different source for fusing current. The standard test lightning stroke has a 2 microsecond rise time (10% to 90%) and a 50 microsecond fall time (to 50%) typically represented by a double exponential (1-exp(-t/a))*exp(-t/b), so when you used the Onderdonk equation, you want to use a 50 microsecond pulse

In general, fusing goes as a function of the "action", I^2*time.

The equation from Onderdonk is usually used for this kind of thing (as shown in the table you cited). Onderdonk's equation assumes a rectangular current pulse, but that works for the most part and for lightning, it would be a conservative estimate.

For a 50 microsecond pulse, the fusing current is 22 amps/cmil (vs .87 A/cmil for the 32 ms pulse)

AWG4 is 42kcmil, roughly, so the fusing current is well over 8000kA

Another approach to analysis might be to consider the energy dissipated in that wire. It's a bit tricky, because as the wire heats up, the resistance increases. (by a factor of 4 or 5 at the melting point, as I recall)

But let's consider a meter of that wire which is 5.189mm in diameter. it has a resistance of 0.82 milliohm (at 25C). Let's round up to 5 milliohms.

Let's say our lightning stroke has an RMS current of 50kA (peak current would be higher), so we have (50E3)^2*5E-3 = 12.5 MW. But that lasts for only 50E-6 seconds, so we deposit 12.5E6*50E-6 = 625 Joules into the meter of wire.

That wire has 21 sq mm cross section so the one meter length is about 21E-6 cubic meters or 21 cc. Copper has density about 7 g/cc, so we've got around 150 grams of copper there. At a specific heat of 0.385 J/g every 58 Joules will raise the temperature 1 degree. Since we're dumping in about 600 joules, that lightning stroke will raise the temperature around 10 degrees.

In practice, a typical lightning strike has several strokes, so you probably dump 4-6 times that amount of energy into the wire. But still, you're talking maybe a 50-60 C temperature rise, which is LONG way from the 1000 degree rise you need to melt the copper.

Your observation of total destruction of a copper conductor was probably from some other mechanism. The electromagnetic forces are the best candidate. I used to do some quarter shrinking, and a few thousand amps in sub millisecond pulse would destroy a AWG10 coil from the magnetic forces.

An unsupported turn of AWG 4 or 6 wire would probably be destroyed by a 20kA pulse with a rise time of 2 microseconds. The di/dt is 400E9 A/sec, so the flux is pretty spectacular.

The other source of disaster in high power pulse discharges is if there is a loose connection or a gap in the conductor. The several tens of volt cathode drop in an arc at 20kA gets the peak power up pretty high, and unlike in the example above where the 12MW is distributed over a meter of length, you get that megawatt dissipated in a few cm, so the energy density is much higher.

> <http://www.lightningsafety.com/nlsi_info/media.html>
> Other references offer averages from 5,000 to 50,000A. I would call
> #4 marginal but probably adequate for California, which doesn't get
> much lightning.
>

2465. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 21:05:01 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j5tdpsrrp2@news.jpl.nasa.gov>
Source record: 3617

On 9/27/2011 1:10 PM, Sal wrote:
> " Tuuk"<abra@cadabra.com> wrote in message
> news:xOigq.30243$eS.10455@newsfe03.iad...
>> Thanks for all the info
>>
>> I am going to ground out the satellite dish to the tower.
>>
>> Now it is grounded to my new plazma and I would feel more comfortable with
>> it grounded to the tower. Don't want nothing happening to that new plazma.
>> Now of course if it ever got hit by lightning I would imagine the receiver
>> would get fried, maybe not the tv, the coax goes into the receiver, then
>> into the yamaha sourround sound then into the tv. A jolt has to stop
>> somewhere along that line.
>
> I know what an opto-isolator is. (Provides a signal path with a short-range
> modulated light beam -- no copper connection) I don't know if any have been
> designed/sold for lightning protection.
>
>

Typical optos can stand off 5kV or so. Speed is a problem There are off
the shelf opto isolator widgets for things like RS232 and phone lines
that are fairly inexpensive. Get to RF, though, and the price goes way up.

If you need more, you go to a fiber optic link of some sort.

2466. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 21:05:58 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j5tdrmrrp3@news.jpl.nasa.gov>
Source record: 3618

On 9/26/2011 2:07 PM, Richard Clark wrote:
> On Mon, 26 Sep 2011 12:13:26 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
> wrote:
>
>> I think one can safely assume that the folks doing the experiment are
>> aware of all those potential error sources.
>
> The odds are distinctly against that being true.
>
> At the end of the day, the measurement is going to expose a design
> flaw (recall the Hubble Lens?), not shake the foundations of Physics.
>

Almost certainly you're right. But as far as the error sources
referenced in the older post (solid earth tides, etc.): those have been
taken into account.

2467. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-27 21:49:55 UTC
From: dave <dave@dave.dave>
Message-ID: <iKedneMphKme2B_TnZ2dnUVZ_vOdnZ2d@earthlink.com>
Source record: 3615

On Tue, 27 Sep 2011 13:10:30 -0700, Sal wrote:

> " Tuuk" <abra@cadabra.com> wrote in message
> news:xOigq.30243$eS.10455@newsfe03.iad...
>> Thanks for all the info
>>
>> I am going to ground out the satellite dish to the tower.
>>
>> Now it is grounded to my new plazma and I would feel more comfortable
>> with it grounded to the tower. Don't want nothing happening to that new
>> plazma. Now of course if it ever got hit by lightning I would imagine
>> the receiver would get fried, maybe not the tv, the coax goes into the
>> receiver, then into the yamaha sourround sound then into the tv. A jolt
>> has to stop somewhere along that line.
>
> I know what an opto-isolator is. (Provides a signal path with a
> short-range modulated light beam -- no copper connection) I don't know
> if any have been designed/sold for lightning protection.
>
> Anybody?
>
> "Sal"
> (KD6VKW)

These fine folks make a heavy duty 75 Ohm protector:

http://www.alphadeltacom.com/

2468. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 00:08:08 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <27o487l5ord692o9okvu8aja8h46dv8nkb@4ax.com>
Source record: 3619

On Tue, 27 Sep 2011 07:53:06 -0400, " Tuuk" <abra@cadabra.com> wrote:

>Thanks for all the info

Y'er welcome. Now, if you want a usable answer to your question, it might be helpful if you describe the tower, what manner of DBS dish, and some of the distances involved.

>I am going to ground out the satellite dish to the tower.

If your unspecified type of tower is properly grounded, the tower will protect the dish from a direct hit. Still, it's a good idea to ground everything to reduce the effects of induced currents from a nearby hit.

Grounding the dish is probably a good idea. Grounding the LNB at the dish is a bad idea. Depending on model of LNB, many of them have no DC connection between the LNB case and the dish ground. This is not for lightning protection but to prevent ground loops. In general, you want to do it the way the installation manual suggests and the NEC electrical code demands, which is a grounded barrel connector somewhere close to the utilities ground.
<http://www.dbsinstall.com/whatis/Whatisgood-5.asp>
Such a ground is NOT to protect against lightning, but to protect against getting electrocuted if the satellite receiver magically loses its protective AC ground and leaks some 117VAC onto the coax.

This discussion has some good comments on DBS dish grounding.
<http://www.dbstalk.com/showthread.php?t=16300>

>Now it is grounded to my new plazma and I would feel more comfortable with
>it grounded to the tower. Don't want nothing happening to that new plazma.
>Now of course if it ever got hit by lightning I would imagine the receiver
>would get fried, maybe not the tv, the coax goes into the receiver, then
>into the yamaha sourround sound then into the tv. A jolt has to stop
>somewhere along that line.

The general idea is to give the current a better path to ground than through your expensive electronics.

Incidentally, I just found this on using wood for mounting:
<http://www.dbsinstall.com/diy/GroundPostInstallation.asp>

What's inside a Polyphaser cellular lightning protector:
<http://802.11junk.com/jeffl/pics/lightning/index.html>
Note the 4 ceramic spark gaps in series. You get 4 hits, and then it shorts out.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2469. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 03:32:28 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <e9238a2c-0981-4ba4-9b53-0bc3afe8519e@5g2000yqo.googlegroups.com>
Source record: 3620

On Sep 25, 7:46 pm, Jeffrey Angus <grendel...@aim.com> wrote:
> On 9/25/2011 6:29 PM, Ralph Mowery wrote:
>
> > "Jeffrey Angus"<grendel...@aim.com> wrote in message
> >> Several commercial tower sites I used to service used wooden
> >> cross supports between telephone poles.
>
> > The thing with lumber is that it can hold moisture and cause the tower to
> > rust where the wood is.
> > Also if it is treated wood, the chemicals may cause the same thing only
> > faster.
>
> Each cross brace has about a dozen 2" diameter galvanized stubs to
> attach the antennas to. They are bolted directly to the cross braces.
>
> All the wood was treated with Creosote just like the poles themselves.
> The site was at least 40 years old the last time I was up there in 2005.
>
> The stubs didn't look any worse than the usual stubs bolted to metal
> tower assemblies.
>
> Jeff
>
> --
> "Everything from Crackers to Coffins"

Same here Jeff, creosote poles and cross arms 30 years old with hot
dipped galvanized hardware. No sign of deterioration.

Jimmie

2470. Re: Back yard tower advice??/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 12:22:17 UTC
From: dave <dave@dave.dave>
Message-ID: <rbednX8aEr7kjB7TnZ2dnUVZ_jednZ2d@earthlink.com>
Source record: 3621

On Tue, 27 Sep 2011 20:32:28 -0700, JIMMIE wrote:

> On Sep 25, 7:46 pm, Jeffrey Angus <grendel...@aim.com> wrote:
>> On 9/25/2011 6:29 PM, Ralph Mowery wrote:
>>
>> > "Jeffrey Angus"<grendel...@aim.com> wrote in message
>> >> Several commercial tower sites I used to service used wooden cross
>> >> supports between telephone poles.
>>
>> > The thing with lumber is that it can hold moisture and cause the
>> > tower to rust where the wood is.
>> > Also if it is treated wood, the chemicals may cause the same thing
>> > only faster.
>>
>> Each cross brace has about a dozen 2" diameter galvanized stubs to
>> attach the antennas to. They are bolted directly to the cross braces.
>>
>> All the wood was treated with Creosote just like the poles themselves.
>> The site was at least 40 years old the last time I was up there in
>> 2005.
>>
>> The stubs didn't look any worse than the usual stubs bolted to metal
>> tower assemblies.

>
> Same here Jeff, creosote poles and cross arms 30 years old with hot
> dipped galvanized hardware. No sign of deterioration.
>
> Jimmie

Ask John Franklin in Santa Barbara how his telephone poles are doing on
Gibraltar these days...

2471. LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 15:46:44 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j5vfh4$uh1$1@dont-email.me>
Source record: 3622

Recently acquired an LDG tuner. Nice part.
I'm looking forward to the not having to twist knobs every
time I change frequency.
It comes with an adapter cable for Icom radios, but it's a
4-pin Molex connector and the manual doesn't show what the
connections/signals are for the radio.
Anyone out there connect this tuner to an IC-761 already?

Thanks
Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2472. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 16:26:36 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <n2i687hrldiu86godj52lrp5s3fc9782ht@4ax.com>
Source record: 3623

On Wed, 28 Sep 2011 10:46:44 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>Recently acquired an LDG tuner. Nice part.
>I'm looking forward to the not having to twist knobs every
>time I change frequency.

Ok, you're lazy.

>It comes with an adapter cable for Icom radios, but it's a
>4-pin Molex connector and the manual doesn't show what the
>connections/signals are for the radio.
>Anyone out there connect this tuner to an IC-761 already?

Buy or clone the LDG Icom interface cable. The IC-761 supports the
Icom AH-4 antenna tuna, so it should work:
<http://www.ldgelectronics.com/c/252/products/13/23/1>
The warrany on this advice expires after you read this message.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2473. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 16:37:58 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <j2j68718f4v0miei6r4ash9alonih42igq@4ax.com>
Source record: 3624

On Wed, 28 Sep 2011 09:26:36 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>On Wed, 28 Sep 2011 10:46:44 -0500, Jeffrey Angus <grendelair@aim.com>
>wrote:
>
>>Recently acquired an LDG tuner. Nice part.
>>I'm looking forward to the not having to twist knobs every
>>time I change frequency.
>
>Ok, you're lazy.
>
>>It comes with an adapter cable for Icom radios, but it's a
>>4-pin Molex connector and the manual doesn't show what the
>>connections/signals are for the radio.
>>Anyone out there connect this tuner to an IC-761 already?
>
>Buy or clone the LDG Icom interface cable. The IC-761 supports the
>Icom AH-4 antenna tuna, so it should work:
><http://www.ldgelectronics.com/c/252/products/13/23/1>
>The warrany on this advice expires after you read this message.

Schematic:
<http://www.ldgelectronics.com/assets/images/products/cables/IC%20cable.jpg>
Alternate source:
<http://www.cheapham.com/products/LDG-IC%252dPAC%252d6-Icom-Interface-Cable-%252d-6-Foot.h
tml>

Hmmm... why do you need an antenna tuner? Can't you build an antenna
that's close to 50 ohms? Or, are you like me and just hang any random
length of wire in the trees and hope for the best?

--
Jeff Liebermann jeffl@cruzio.com
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Skype: JeffLiebermann AE6KS 831-336-2558

2474. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 20:46:35 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j6013b$2ih$1@dont-email.me>
Source record: 3625

On 9/28/2011 11:37 AM, Jeff Liebermann wrote:
> Hmmm... why do you need an antenna tuner? Can't you build an antenna
> that's close to 50 ohms? Or, are you like me and just hang any random
> length of wire in the trees and hope for the best?

For close to 40 years I bought into the myth of 50 ohm antennas.
Absolute crap results. (Well, I've always had very good luck with
a dipole for one band.)

Earlier this year I put up a 102' doublet fed with open wire line
and have been working the entire planet with less than 100 watts.

But you're right, I'm a lazy bastard and would like the frequency
agility rather than having to tweak the knobs on the MFJ tuner
every time I change frequency.

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2475. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-28 23:03:45 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <758787t0geqcvkdk30c9pg67ip58iomsl3@4ax.com>
Source record: 3626

On Wed, 28 Sep 2011 15:46:35 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>On 9/28/2011 11:37 AM, Jeff Liebermann wrote:
>> Hmmm... why do you need an antenna tuner? Can't you build an antenna
>> that's close to 50 ohms? Or, are you like me and just hang any random
>> length of wire in the trees and hope for the best?
>
>For close to 40 years I bought into the myth of 50 ohm antennas.
>Absolute crap results. (Well, I've always had very good luck with
>a dipole for one band.)

Mythology went out with the Greeks and the Romans. Modern antenna
design requires newer beliefs and religions. Apparently, your
practices within the Cult of 50 ohms has failed to bring about the
desired miraculous DX. You might want to petition the radio gods for
a review of your design before you discard the cult completely.
However, there are alternative religions.

In my case, I switched and am now a practicing member of the Cult of
75 ohms. The difference is subtle. While worship of the 50 ohm idol
results in the maximum power transfer, the change to 75 ohms results
in minimum coax loss and somewhat easier antenna design. However, the
major benefit is it allows one to minimize the tithe paid to vendors
as CATV coax is cheap and readily available. I suggest you consider a
religious conversion.

>Earlier this year I put up a 102' doublet fed with open wire line
>and have been working the entire planet with less than 100 watts.

Hmmm... perhaps that's because the bands were miserable all last year
and have only recently begun to show signs of life. Timing is
everything.

I thought you were trying to load a barbed wire fence. I'm
dissapointed.

>But you're right,

Far right, please.

>I'm a lazy bastard and would like the frequency
>agility rather than having to tweak the knobs on the MFJ tuner
>every time I change frequency.

Yeah, I know the problem. Every time the kite at the end of your
102ft doublet looses altitude, and the middle scrapes ground, you have

to retune. However, the IC-761 has plenty of knobs and switches to play with. I don't see how a few more on the tuner could make any difference.

>Jeff-1.0
>wa6fwi

Why is my mouse glued to the mouse pad? Sigh.

--
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831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

2476. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 00:00:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F6F65DFEE118nonenowhere@88.198.244.100>
Source record: 3627

Jeffrey Angus <grendelair@aim.com> wrote in news:j5vfh4$uh1$1@dont-email.me:

> Recently acquired an LDG tuner. Nice part.
> I'm looking forward to the not having to twist knobs every
> time I change frequency.
> It comes with an adapter cable for Icom radios, but it's a
> 4-pin Molex connector and the manual doesn't show what the
> connections/signals are for the radio.

I think your question relates to the connections between the LDG and that Molex plug.

Was it LDG who supplied the adapter? If so, ask them. Seems a bit silly that would supply the thing without adequate information on how to use it.

Owen

2477. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 00:15:22 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j60db0$md9$1@dont-email.me>
Source record: 3628

On 9/28/2011 7:00 PM, Owen Duffy wrote:
> I think your question relates to the connections between the LDG and that
> Molex plug.
>
> Was it LDG who supplied the adapter? If so, ask them. Seems a bit silly
> that would supply the thing without adequate information on how to use it.
>
> Owen

Well, I did ask LDG and they were kind enough to send me the application note describing the connections.

And the more I looked into this the more I realized, "You have an antenna tuner built in into the Icom IC-761."

Homer Simpson moment, "Do-oh!"

However, the specified tuning range of the internal tuner is 16.7 to 150 ohms. The LDG is specified as 6 to 1000 ohms. A bit more latitude.

OK, "How did I get side tracked like this?"

Earlier this year I got an MFJ Versa Tuner to use with the doublet antenna. It works fine. But of course, it's manual. (But it does have a 4:1 balun inside.) So I get the LDG in a swap for some goodies. No balun inside. Ok, I ordered an MFJ 4:1 current balun. And those do work a LOT smoother tuning that with the internal 4:1 voltage type the MFJ tuner has.

It was while obsessing over the "talk to the radio" cable for the LDG that I realized, "Oh right, this is designed for radios that don't have internal tuners." For example, my Icom IC-726 has the correct interface to talk to the LDG. I do have the matching AT-150 auto-tuner for the IC-726. That is specified the same as the IC-761 tuner.

Once the balun gets here, the FIRST thing I'm going to do is to find out if the internal tuner has enough range to deal with my antenna.

I just love wild goose chases, because in the end, you usually do learn something useful in the process.

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2478. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 00:26:49 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j60e0b$pn9$1@dont-email.me>
Source record: 3629

On 9/28/2011 6:03 PM, Jeff Liebermann wrote:
> Mythology went out with the Greeks and the Romans. Modern antenna
> design requires newer beliefs and religions. Apparently, your
> practices within the Cult of 50 ohms has failed to bring about the
> desired miraculous DX. You might want to petition the radio gods for
> a review of your design before you discard the cult completely.
> However, there are alternative religions.

Well, I've come to a few conclusions.
1. Dipoles with a 1:1 balun work very well.
2. See #1. However, the trees and other things they are attached to
are hard to rotate.
3. Vertical antennas load nicely. So do Bird Termalines. And they
radiate about the same.
4. See #3. If I had room for a bunch of radials to make the vertical
work properly, I'd have room for a real antenna.
5. Yagis do nicely. _IF_ you have the tower and rotor to put them on.
6. A 102' doublet with open wire feed line and a tuner works amazing
well and considering the cost difference is flat out outstanding.

Re: #4. Having moved to a small rural town in central Texas, I have
a lot of room now living on 1/2 an acre.

I already had a used 40' tower and was given the tuner as a bribe to
try the 102' doublet. And I had a 500' spool of #14 THHN house wire
to play with.

Isn't half the fun of all this seeing what works well for you?

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2479. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 00:31:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F6F6B01EF53nonenowhere@88.198.244.100>
Source record: 3630

Jeffrey Angus <grendelair@aim.com> wrote in
news:j60db0$md9$1@dont-email.me:

...
> I just love wild goose chases, because in the end, you usually do
> learn something useful in the process.

Yes, there is always a risk of that.

The auto tuner can be a path to hiding shortcomings in an antenna system, in search of the holy grail, low VSWR.

Whilst you seem critical of the 4:1 voltage balun in the MFJ, it is my perception that they are still the most popular balun. My theory on that is that antenna systems that exhibit extreme impedance can often be 'matched' with that configuration, assisted by the loss in the balun.

It is an example of how the device's operation can be misunderstood. There is little doubting the considerable anecdotal evidence that 4:1 voltage baluns work 'better', it is understanding what is meant by 'better' that is revealing.

That leads into the question of whether a 4:1 balun is 'better'.

If you were selling product, you would concentrate on the things that deliver good VSWR, because that is all that is in the minds of most buyers.

Owen

PS: for avoidance of doubt, nothing above should be interpreted to recommend a 4:1 voltage balun or a 4:1 balun.

2480. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 01:22:36 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j60h8s$ao0$1@dont-email.me>
Source record: 3631

On 9/28/2011 7:31 PM, Owen Duffy wrote:
> The auto tuner can be a path to hiding shortcomings in an antenna
> system, in search of the holy grail, low VSWR.

This is a 102' doublet with 40' of open wire balanced feed line.
Except for the input of the tuner looking like 50 ohms to make the
transmitter happy, there is no such thing as "low VSWR" on this
type of antenna.

> Whilst you seem critical of the 4:1 voltage balun in the MFJ, it is my
> perception that they are still the most popular balun. My theory on that
> is that antenna systems that exhibit extreme impedance can often be
> 'matched' with that configuration, assisted by the loss in the balun.
>
> It is an example of how the device's operation can be misunderstood.
> There is little doubting the considerable anecdotal evidence that 4:1
> voltage baluns work 'better', it is understanding what is meant by
> 'better' that is revealing.

Actually, the MFJ 949b Versa Tuner has an internal 4:1 voltage balun.
The reason for that is simple. One large toroid and you're done. There
isn't room inside the case for a 4:1 current balun.

If you disconnect the open wire line from the internal voltage balun
in an MFJ tuner and replace it with an external current balun you will
find that the tuning of the match on the tuner is a lot smoother as
opposed to almost erratic. (But still obtainable.)

Due to the location of my station on the 2nd floor over looking a
covered porch, having a "good RF ground" is not going to happen.
The current balun forces the antenna and feed line into a truly
balanced condition. No ground needed, other than a proper bonding
of all the related equipment to a common reference in the station.

The whole purpose of the tuner is to allow the transmitter to see
a 50 ohm unbalanced load that it was designed for. Accomplishing
that, allows the most power to be transferred to the antenna. The
102' doublet with open wire line seems to do a remarkable job at
radiating. (And equally well at receiving.)

> That leads into the question of whether a 4:1 balun is 'better'.

Better than what? A 1:1 balun or none at all, which seems to be
the selling point of the G5RV antenna and it's clones.

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2481. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 01:54:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F6F79298D9A8nonenowhere@88.198.244.100>
Source record: 3632

Jeffrey Angus <grendelair@aim.com> wrote in news:j60h8s$ao0$1@dont-email.me:

> On 9/28/2011 7:31 PM, Owen Duffy wrote:
>> The auto tuner can be a path to hiding shortcomings in an antenna
>> system, in search of the holy grail, low VSWR.
>
> This is a 102' doublet with 40' of open wire balanced feed line.
> Except for the input of the tuner looking like 50 ohms to make the
> transmitter happy, there is no such thing as "low VSWR" on this
> type of antenna.

Well to "make the transmitter happy" is jsut the new language for low VSWR.

> ... There
> isn't room inside the case for a 4:1 current balun.

But there is probably room for an effective 1:1 Current Balun.

>
> If you disconnect the open wire line from the internal voltage balun
> in an MFJ tuner and replace it with an external current balun you will
> find that the tuning of the match on the tuner is a lot smoother as
> opposed to almost erratic. (But still obtainable.)

Ok, so in your experience, you haven't yet come across a load that could be matched with the voltage balun, but not with an external current balun.

> Due to the location of my station on the 2nd floor over looking a
> covered porch, having a "good RF ground" is not going to happen.
> The current balun forces the antenna and feed line into a truly
> balanced condition.

Ideal conditions like "forces" and "truly balanced" don't often exist in the real world. It would be of more interest if you had measured and reported the differential and common mode current at various frequencies.

> The whole purpose of the tuner is to allow the transmitter to see
> a 50 ohm unbalanced load that it was designed for. Accomplishing
> that, allows the most power to be transferred to the antenna. The

Yes. It is the meaning of "most" that is relevant. Most doesn't need to mean 100%, or close to it, you make compromises for frequency agility and multiband use, but "most" is often unknown. Perhaps some DX QSL

cards can substitute.

> 102' doublet with open wire line seems to do a remarkable job at
> radiating. (And equally well at receiving.)

Yes, they can be a good antenna, but it is not a no-brainer.

For example, a correspondent recently reported problems with just such a thing on 40m. Turns out his feed line length was such that at 800W into the feed line, the voltage between the wires was some 4000+V and was causing flashovers in a 3kW rated ATU. In this case, I recommended that since he could not lengthen or shorten the feed line enough, that he shorten the antenna so solve the problem.

He had previously smoked up a CWS Bytemark 5kW rated current balun on 80m with another antenna, caused by unlucky feed line length.

>
> > That leads into the question of whether a 4:1 balun is 'better'.
>
> Better than what? A 1:1 balun or none at all,

1:1.

4:1 reduces the voltage impressed on the ATU components, which is good for high impedance loads, and poor for low impedance loads.

There is no simple thing that always works best on a random set of loads (which is the case for many multi band antennas).

> which seems to be
> the selling point of the G5RV antenna and it's clones.

Perhaps to some. There is good argument for use of a balun with a G5RV and not-balanced transmitter. Varney conceded that in one of his later articles. Most people who are adament about what Varney did or did not describe have not read his articles. Antenna manufacturers are not a good source of factual information.

Owen

2482. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 02:22:55 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j60kq1$s0h$1@dont-email.me>
Source record: 3633

On 9/28/2011 8:54 PM, Owen Duffy wrote:
> Jeffrey Angus<grendelair@aim.com> wrote in news:j60h8s$ao0$1@dont-
> email.me:
>
>> On 9/28/2011 7:31 PM, Owen Duffy wrote:
>>> The auto tuner can be a path to hiding shortcomings in an antenna
>>> system, in search of the holy grail, low VSWR.
>>
>> This is a 102' doublet with 40' of open wire balanced feed line.
>> Except for the input of the tuner looking like 50 ohms to make the
>> transmitter happy, there is no such thing as "low VSWR" on this
>> type of antenna.
>
> Well to "make the transmitter happy" is jsut the new language for low
> VSWR.

You're missing the point. The "Holy Grail" is low VSWR at the antenna.
Obviously having the tuner present a nice resistive 50 ohm load to a
transmitter designed to be loaded with a resistive 50 ohm load is a
"Good thing(tm)".

But with a random length, i.e. non-resonant, antenna, VSWR at the
antenna is not a meaningful term.

>> ... There
>> isn't room inside the case for a 4:1 current balun.
>
> But there is probably room for an effective 1:1 Current Balun.

But my point was MFJ chose to use a voltage balun for two reasons.
They're cheaper and they still work to a fashion.

> Ok, so in your experience, you haven't yet come across a load that could
> be matched with the voltage balun, but not with an external current
> balun.

Not yet. If it matches at all with one, it will match with the other.
The difference being that the current balun results in much less
erratic/sudden/critical tuning of the antenna tuner itself.

>> Due to the location of my station on the 2nd floor over looking a
>> covered porch, having a "good RF ground" is not going to happen.
>> The current balun forces the antenna and feed line into a truly
>> balanced condition.
>
> Ideal conditions like "forces" and "truly balanced" don't often exist in

> the real world. It would be of more interest if you had measured and
> reported the differential and common mode current at various
> frequencies.

Um, actually, yes they do. That's the whole point of a current mode
balun.

>> The whole purpose of the tuner is to allow the transmitter to see
>> a 50 ohm unbalanced load that it was designed for. Accomplishing
>> that, allows the most power to be transferred to the antenna. The
>
> Yes. It is the meaning of "most" that is relevant. Most doesn't need to
> mean 100%, or close to it, you make compromises for frequency agility
> and multiband use, but "most" is often unknown. Perhaps some DX QSL
> cards can substitute.

As an example then. How about working RA3DA in a pileup competing with
the "big guns" in New York running at or above the legal limit? Sure
I didn't get him on the first call, but I did it running under 100 watts
and into a $25 antenna.

>> 102' doublet with open wire line seems to do a remarkable job at
>> radiating. (And equally well at receiving.)
>
> Yes, they can be a good antenna, but it is not a no-brainer.
>
> For example, a correspondent recently reported problems with just such a
> thing on 40m. Turns out his feed line length was such that at 800W into
> the feed line, the voltage between the wires was some 4000+V and was
> causing flashovers in a 3kW rated ATU. In this case, I recommended that
> since he could not lengthen or shorten the feed line enough, that he
> shorten the antenna so solve the problem.
>
> He had previously smoked up a CWS Bytemark 5kW rated current balun on
> 80m with another antenna, caused by unlucky feed line length.

See above. Why is it that hams seem to think they absolutely need to run
800 (or more) watts of power?

>>> That leads into the question of whether a 4:1 balun is 'better'.
>>
>> Better than what? A 1:1 balun or none at all,
>
> 1:1.
>
> 4:1 reduces the voltage impressed on the ATU components, which is good
> for high impedance loads, and poor for low impedance loads.
>
> There is no simple thing that always works best on a random set of loads
> (which is the case for many multi band antennas).

All I've said is that this appears to work perfectly for me.
In the time honored tradition of Usenet "Your mileage may vary."

>> which seems to be
>> the selling point of the G5RV antenna and it's clones.
>
> Perhaps to some. There is good argument for use of a balun with a G5RV
> and not-balanced transmitter. Varney conceded that in one of his later
> articles. Most people who are adament about what Varney did or did not
> describe have not read his articles. Antenna manufacturers are not a
> good source of factual information.

You're hear equally unsubstantiated claims about how well an off center
fed Windom antenna works with no tuner as well.

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2483. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 06:26:24 UTC
From: Sal <sobars@aol.com>
Message-ID: <j6130l$v2f$1@dont-email.me>
Source record: 3634

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:758787t0geqcvkdk30c9pg67ip58iomsl3@4ax.com...

> ... am now a practicing member of the Cult of
> 75 ohms. The difference is subtle. While worship of the 50 ohm idol
> results in the maximum power transfer, the change to 75 ohms results
> in minimum coax loss and somewhat easier antenna design. However, the
> major benefit is it allows one to minimize the tithe paid to vendors
> as CATV coax is cheap and readily available. I suggest you consider a
> religious conversion.

Yes. Somebody in this group (you, maybe) previously promoted 75 ohm cable.
This past spring, I was modeling my 20m Field Day dipole, varying size and
height for best pattern shape and minimum VSWR. At optimum, it had almost
exactly 75 ohm feedpoint impedance. Having plenty of TV coax, I didn't
hesitate to go with it. The antenna worked wonderfully well at FD.
Transmitter seemed to like it just fine.

"Sal"

2484. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 07:08:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F6FAE7333B25nonenowhere@88.198.244.100>
Source record: 3635

"Sal" <sobars@aol.com> wrote in news:j6130l$v2f$1@dont-email.me:

> Yes. Somebody in this group (you, maybe) previously promoted 75 ohm
> cable. This past spring, I was modeling my 20m Field Day dipole,
> varying size and height for best pattern shape and minimum VSWR. At
> optimum, it had almost exactly 75 ohm feedpoint impedance. Having
> plenty of TV coax, I didn't hesitate to go with it. The antenna
> worked wonderfully well at FD. Transmitter seemed to like it just
> fine.

Sal, you will have discovered that the feed point impedance of a half wave dipole at resonance is dependent on height above ground, type of soil etc.

This need not be a choice between 50 ohms and 75 ohms.

My 40m inverted V dipole uses 75 ohm feedline (RG6), and the impedance looking into the feedline is close to 50+j0. Dipole height was determined prior to design of the matching system (ie height was not constrained by the matching solution, rather the height set a requirement for the matching solution). The transmitter has its rated load impedance, the feedline is efficient and inexpensive. There is a W2DU style choke balun near the feedpoint, and measured common mode current is quite low.

Of course, the feedline has standing waves, and the dipole is not resonant, to be frowned upon by some (many?). The antenna system can be readily modelled, and it has higher efficiency than a resonant half wave with comparable coax (say RG8X), indistinguisable pattern, marginally higher gain.

Owen

>
> "Sal"
>
>

2485. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 17:08:20 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <7k8987lb164sl28odcdj32b0c3njflqavv@4ax.com>
Source record: 3636

On Wed, 28 Sep 2011 23:26:24 -0700, "Sal" <sobars@aol.com> wrote:

>"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
>news:758787t0geqcvkdk30c9pg67ip58iomsl3@4ax.com...
>
>> ... am now a practicing member of the Cult of
>> 75 ohms. The difference is subtle. While worship of the 50 ohm idol
>> results in the maximum power transfer, the change to 75 ohms results
>> in minimum coax loss and somewhat easier antenna design. However, the
>> major benefit is it allows one to minimize the tithe paid to vendors
>> as CATV coax is cheap and readily available. I suggest you consider a
>> religious conversion.
>
>Yes. Somebody in this group (you, maybe) previously promoted 75 ohm cable.
>This past spring, I was modeling my 20m Field Day dipole, varying size and
>height for best pattern shape and minimum VSWR. At optimum, it had almost
>exactly 75 ohm feedpoint impedance. Having plenty of TV coax, I didn't
>hesitate to go with it. The antenna worked wonderfully well at FD.
>Transmitter seemed to like it just fine.

Probably me. I tend to promote the use of 75 ohm coax and systems.
Most of the coax cables to my rooftop antenna farm are 75 ohms. The
justification was convenience and price. I obtained five 1000ft rolls
of RG6a/u mutations (some with messenger wire), and some used hard
line, and couldn't resist using it. The only problems seem to be
getting accurate readings on my test equipment and having enough
F-to-N or F-to-BNC adapters.
<http://www.qsl.net/n9zia/wireless/75_ohm_hardline.html>

Note that using 75 ohm coax on a VHF/UHF repeater is a really bad
idea. Duplexers, isolators, circulators, cavities, and such are very
sensitive to mismatch. For repeaters, use only 50 ohms.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2486. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 18:28:39 UTC
From: dave <dave@dave.dave>
Message-ID: <EMudndBeiulKJRnTnZ2dnUVZ_oudnZ2d@earthlink.com>
Source record: 3637

On Wed, 28 Sep 2011 19:26:49 -0500, Jeffrey Angus wrote:

> 3. Vertical antennas load nicely. So do Bird Termalines. And they
> radiate about the same.
> 4. See #3. If I had room for a bunch of radials to make the vertical
> work properly, I'd have room for a real antenna.
>

I have an MFJ-928 ATU at the feed point of an elevated 43' vertical, with
a half dozen radials of various random lengths. It works great for
30/20/17/15. It starts making significant multiple lobes above 21 MHz.
I'm going to try a coil for 80.

2487. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 19:29:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tfh987h6vj720efp2cno2nr4kpe0hncptp@4ax.com>
Source record: 3638

On Wed, 28 Sep 2011 21:22:55 -0500, Jeffrey Angus <grendelair@aim.com>
wrote:

>But my point was MFJ chose to use a voltage balun for two reasons.
>They're cheaper

What is the price differential in winding one wire outside the core,
instead of winding it inside the core? Such "savings" accrue only in
the production run of millions of units.

>and they still work to a fashion.

If both sides are unbalanced - you mean that fashion?

MFJ is not making a killing on this particular poor winding (OK, call
it historical inertia) practice, and their market for these internal
BalUns is dipoles, not monopoles.

73's
Richard Clark, KB7QHC

2488. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 19:49:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <idi98715usbm7dlqk019h0v5oai28mtk2h@4ax.com>
Source record: 3639

On Tue, 27 Sep 2011 14:05:58 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>as far as the error sources
>referenced in the older post (solid earth tides, etc.):

and disregarding variations in solid earth Permeability and
Permittivity....

>those have been taken into account.

Further correspondence from the New York Times:
http://www.nytimes.com/2011/09/30/opinion/30iht-eddas30.html?hpw
"Was Einstein Wrong?"

"...the Global Positioning Systemï¿½s satellites are programmed to
account for the effects of relativity."

GPS is used to measure the path;
GPS is adjusted for relativity;
Relativity has been disproven;
GPS adjustments for relativity are suspect;
the method to measure the path is suspect;
the disproof is suspect.

One example of a very common experimental failure - circular
referentiality.

73's
Richard Clark, KB7QHC

2489. Re: You heard it here (before) first - FTL in the New York Times

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 19:59:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b6j987l152a2ieouhgo9aru2l9lj16be31@4ax.com>
Source record: 3640

On Thu, 29 Sep 2011 12:49:37 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>GPS is used to measure the path;
>GPS is adjusted for relativity;
>Relativity has been disproven;
>GPS adjustments for relativity are suspect;
>the method to measure the path is suspect;
>the disproof is suspect.
>
>One example of a very common experimental failure - circular
>referentiality.

Some fancy bookkeeping could balance the accounts, I suppose.

I still would smile at the dis-connect of logic, however. And I would
suppose the next step is the rehabilitation of the term Relativity
insofar as Physics. Would we storm the libraries with label makers to
white wash the term out? What would that science be called?
Post-Newtonian Physics?
Pre-Neutrinian Physics?
Informally, both?

I see a generation of Physicist candidates struggling through years of
lectures trying to distinguish between the two being uttered from the
podium.

73's
Richard Clark, KB7QHC

2490. ICOM 745 / 751 MEMORY BOARD NEEDED

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 20:03:35 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <0oj9879o9vhkpscpj5eta1jhoemltfj8ui@4ax.com>
Source record: 3641

I need to find the internal ram board for an Icom 745/751. I broke mine by pushing too hard when reinstalling.

Money is tight, as we all know. Do you have one that I can buy?

I sure would appreciate it.

Thank you.

2491. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 21:06:40 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F704856366CEnonenowhere@88.198.244.100>
Source record: 3642

Richard Clark <kb7qhc@comcast.net> wrote in
news:tfh987h6vj720efp2cno2nr4kpe0hncptp@4ax.com:

...
> MFJ is not making a killing on this particular poor winding (OK, call
> it historical inertia) practice, and their market for these internal
> BalUns is dipoles, not monopoles.

Hi Richard,

I see MFJ getting mention, and whilst they may deserve a bit of a flogging for some things, I spring to their defence on this occasion.

MFJ make the claim "More hams use MFJ-949s than any other antenna tuner in the world!" and gauging from questions in online fora, they are indeed popular, the claim may be correct.

The MFJ949E uses a Ruthroff voltage balun.

I have measured the balun losses in my '949E, and they are as I discussed in the general case earlier, quite high on high impedance loads. Anyone with a rudimentary knowledge of balun design would understand that, but there are those who apparently live in an ideal who would refute it.

The simple explanation is that most loss in practical ferrite cored baluns usually results from losses in the core material. The losses in the core material are related to flux density, which in a Ruthroff voltage balun is roughly proportion to the differential voltage, and in a Guanella current balun is roughly proportional to common mode current. There is no reason to think that these two different types of baluns would have identical losses.

The MFJ949E could easily be reconfigured as a Guanella 1:1 balun by changing its end connections, but that does not make it an optimally designed current balun. I haven't done it, and so cannot comment further. I cannot see how the cost of manufacturing it wired as a current balun would be any different.

I think that it is the buyers who determine the market, and savvy sellers cater to the buyer's wants.

While anecdotal evidence abounds that 4:1 voltage baluns match up extreme loads better, and users mostly arent't interested in finding the root cause of the problem and fixing it, voltage baluns will be seen by most buyers and savvy sellers as the solution.

A good demonstration of the credibility of anecodotal evidence is the massive online support for the Array Solutions 4:1 Ruthroff voltage balun / ZeroFive unloaded vertical combination. The configuration drives high common mode on the coax feed line. (I should note that the sellers recommendation has recently changed to an unun.)

MFJ is no doubt one of the savvy sellers. They do BTW have some higher end ATUs with 1:1 current balun, as does the Ameritron label for those who want a current balun.

My own view is that achievement of highest choking impedance in a current balun is assisted by minimising stray capacitance to 'ground', so I would prefer to put a current balun in a non-conductive box, outside the ATU, on a foot of coax to the ATU. (This is one reason why I haven't tried converting my '949E to current balun connection, the windings are quite close to grounded metal and I expect stray capacitance to ground is higher than desirable.)

Owen

2492. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 21:27:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aun987prc16c4eqc58l2v9uvsheuqiebdd@4ax.com>
Source record: 3643

On Thu, 29 Sep 2011 21:06:40 +0000 (UTC), Owen Duffy <none@no.where>
wrote:

>My own view is that achievement of highest choking impedance in a
>current balun is assisted by minimising stray capacitance to 'ground',
>so I would prefer to put a current balun in a non-conductive box,
>outside the ATU, on a foot of coax to the ATU. (This is one reason why I
>haven't tried converting my '949E to current balun connection, the
>windings are quite close to grounded metal and I expect stray
>capacitance to ground is higher than desirable.)
>
Hi Owen,

The internal modification would also demand a balanced tuner topology,
and not the garden variety pi configuration. Your stating stray
capacitance, coupling to ground, etc. is a preface to this.

Put simply, and as described, the 949E and its ilk are lumped
transmission line UnUn transformers. You might salvage the box in a
re-design, but it would require gutting the entire interior circuitry.

The 974 attempts to do this:
http://www.mfjenterprises.com/pdffiles/MFJ-974HB.pdf
and by their stated intentions, they are aware of the design issues.

73's
Richard Clark, KB7QHC

2493. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-29 21:53:11 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F705038E4DC4nonenowhere@88.198.244.100>
Source record: 3644

Richard Clark <kb7qhc@comcast.net> wrote in
news:aun987prc16c4eqc58l2v9uvsheuqiebdd@4ax.com:

...
> The 974 attempts to do this:
> http://www.mfjenterprises.com/pdffiles/MFJ-974HB.pdf
> and by their stated intentions, they are aware of the design issues.

I am sceptical of the "true balanced tuner" approach.

For one thing, I do not recall having ever seen measurement of the common mode impedance reported.

If the objective is current balance, high common mode impedance is essential.

Some folk seem to think that symmetric design is the sure path to success, but it isn't. If you take a 1:1 Guanella with extremely high choking impedance, the currents in its output wires will be almost perfectly balanced, irrespective of the voltage from each terminal to ground. If you placed 10pF of capacitance from each terminal to ground, you appear to have preserved symmetry, but the currents in those capacitors will not be equal unless the load is symmetric. In cases where the currents in the balun wires are almost equal and the currents in the capacitances I mentioned are not equal, then those capacitances have probably compromised common mode impedance.

Most implementations of a "true balanced tuner" have large stray capacitance from each side to chassis.

But, savvy sellers will offer them to the people who are attracted by the concept of a "true balanced tuner".

The joke of balun offerings is those designs purported to work well on isolated loads. If the concept of the load is the overly simplistic two terminal network, and it is isolated from ground, clearly current into one terminal MUST equal current out of the other terminal, no balun is required.

Owen

2494. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 02:44:52 UTC
From: tom <news4792@taring.org>
Message-ID: <4e852d23$0$74948$8046368a@newsreader.iphouse.net>
Source record: 3645

On 9/29/2011 1:20 PM, dave wrote:
> On Wed, 28 Sep 2011 19:55:48 -0500, tom wrote:
>
>
>> At home - 2 independent firewalls, dual different antivirus, dual
>> different anti-malware, plus a lot more and I still don't feel all that
>> safe. But one of my work hats is to be professionally paranoid. I just
>> wish work was as tight as home.
>>
>> tom
>> K0TAR
>
> I just use Ubuntu and don't worry about it.

I need Win and X windows both. Some things are not easily portable.
Even when running CrossOver. Which is an incredible piece of work for
Office and lots of other stuff, the old antenna programs don't work
well, if at all. As well as the new ones.

Disclaimer - I have not tried ELNEC yet.

On to an OS low key rant.

I have machines from OS9, a unix style OS for microcomputers (the real
one from Motorola for 68xx and 68xxx CPUs, not Apple) through Win98,
2000, XP Home/Pro, and some versions of Win7.

And some flavors of linux that most people don't play with because they
require knowledge of the underbelly.

tom
K0TAR

2495. HOT SEX BED ROOM VIDEOS AND 200 BEST ACTRESSES PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 03:45:06 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <d5233475-a44e-4166-956b-d06016d829cc@k10g2000vbn.googlegroups.com>
Source record: 3646

ALL HOT PHOTOS SUPER SeXY PHOTOS
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

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romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
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dotnet questions 3
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2496. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 06:17:08 UTC
From: Sal <sobars@aol.com>
Message-ID: <j63mq9$m8m$1@dont-email.me>
Source record: 3647

"tom" <news4792@taring.org> wrote in message
news:4e852d23$0$74948$8046368a@newsreader.iphouse.net...
> On 9/29/2011 1:20 PM, dave wrote:
>> On Wed, 28 Sep 2011 19:55:48 -0500, tom wrote:
>>
>>
>>> At home - 2 independent firewalls, dual different antivirus, dual
>>> different anti-malware, plus a lot more and I still don't feel all that
>>> safe. But one of my work hats is to be professionally paranoid. I just
>>> wish work was as tight as home.
>>>
>>> tom
>>> K0TAR
>>
>> I just use Ubuntu and don't worry about it.
>
> I need Win and X windows both. Some things are not easily portable. Even
> when running CrossOver. Which is an incredible piece of work for Office
> and lots of other stuff, the old antenna programs don't work well, if at
> all. As well as the new ones.
>
> Disclaimer - I have not tried ELNEC yet.
>
> On to an OS low key rant.
>
> I have machines from OS9, a unix style OS for microcomputers (the real one
> from Motorola for 68xx and 68xxx CPUs, not Apple) through Win98, 2000, XP
> Home/Pro, and some versions of Win7.
>
> And some flavors of linux that most people don't play with because they
> require knowledge of the underbelly.
>
> tom
> K0TAR

I have Linux on an old machine (P3, 1 GHz, 256M RAM) that really doesn't do
it justice. I was impressed that it recognized almost every USB device I
plugged in, new or old. I really should get a newer machine and load it up
with Ubuntu.

Sal

2497. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 13:55:48 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j64hp4$i7g$1@dont-email.me>
Source record: 3648

On 9/28/2011 10:46 AM, Jeffrey Angus wrote:
> It comes with an adapter cable for Icom radios, but it's a
> 4-pin Molex connector and the manual doesn't show what the
> connections/signals are for the radio.

Multiple Homer Simpson "Do-oh!" moments.

LDG was kind enough to supply me with the application note for
the interface cable.

I have two Icom radios. An IC-761 with an internal tuner and an
IC-726 designed to use with an external tuner. The IC-726 has the
mating 4-pin Molex connector.

The two signals are essentially a "request to tune" and an "tune
complete". The IC-726 has a TUNE button on the front panel for
telling the external tuner to do it's thing. (By the way, I do
have the matching AT-150 auto-tuner for the IC-726.)

All three of the tuners, the IC-761 internal, IC-726 external and
LDG have an SO-239 connector for the output and would require an
external balun to connect to an open wire balanced feed line.

The reason I was using the MFJ Versa Tuner with the IC-761 was
fairly simple. It has an internal 4:1 balun and connections for
open wire balanced feed lines.

Since I had to purchase a balun to use the LDG tuner I realized
that "Oh, I can use the Icom tuners with the balun as well."
That was my first "Do-oh!" moment.

Subsequently on researching the interface signals to/from the
LDG I realized that the IC-761 doesn't have a TUNE button or the
signals externally because the tuner is already inside the radio.
That was my second "Do-oh!" moment.

Once the MFJ 4:1 current balun I ordered arrives, the only question
that remains is whether or not the specified matching range of the
Icom tuners is sufficient to deal with my antenna system.

The Icom tuners are specified at 16.7 to 150 ohms.
The LDG Z11 Pro II is specified as 2-1000 ohms.
Oddly enough, the MFJ Versa Tuner has no specified range.

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2498. Re: NAMITHA HOT NAVEL SHOW

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 16:20:49 UTC
From: ogrowup@webtv.net
Message-ID: <7892-4E85EC61-1614@storefull-3172.bay.webtv.net>
Source record: 3649

Here's a clue, wog spammer:

Belly buttons don't cut it here in the States.

--
"Anyone who likes sausage and respects the law should not watch either
being made."-- Otto von Bismarck --

2499. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 19:04:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F71339B6D9ECnonenowhere@88.198.244.100>
Source record: 3650

Jeffrey Angus <grendelair@aim.com> wrote in news:j64hp4$i7g$1@dont-email.me:

> The two signals are essentially a "request to tune" and an "tune
> complete".

That is not quite correct.

Though the protocol is not published by Icom, and the implementation varies a little from radio to radio, the four wires are usually labelled and none are "tune complete".

Owen

2500. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 20:03:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F713DA2A3DEAnonenowhere@88.198.244.100>
Source record: 3501

Jeffrey Angus <grendelair@aim.com> wrote in news:j64hp4$i7g$1@dont-email.me:

> The Icom tuners are specified at 16.7 to 150 ohms.
> The LDG Z11 Pro II is specified as 2-1000 ohms.
> Oddly enough, the MFJ Versa Tuner has no specified range.

Impedance is not a simple scalar quantity as expressed above. The 'specification' is incomplete, you would need to ask the sellers what they meant.

If for example, they mean the R component only, do they imply that X must be zero, or that X can be any value?

If they mean the magnitude, do they imply that any angle of impedance is acceptable?

Also missing is any bounds on efficiency.

I have heard from time to time on air, OMs boast that their tuner is so good, they have matched it up with no antenna plugged in. Obviously, efficiency is zero in that case. A tuner with lower internal losses might not achieve the same feat.

Owen

2501. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 21:14:21 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j65bfe$509$1@dont-email.me>
Source record: 3502

On 9/30/2011 2:04 PM, Owen Duffy wrote:
> Jeffrey Angus<grendelair@aim.com> wrote in news:j64hp4$i7g$1@dont-
> email.me:
>
>> The two signals are essentially a "request to tune" and an "tune
>> complete".
>
> That is not quite correct.

Did you miss the word essentially?

Since it bothers you. From LDG "Start Line." Ground this from an
external switch or open collector to initiate a tuning sequence by
the external tuner.

And "Key Line" This is similar to a PTT line to the transmitter,
but in this case tells the transmitter (which is capable of doing
it) to, regardless of mode, transmit a low lever CW carrier.

When the key line changes state because of a request to tune, it
turns on the transmitter. When tuning is complete, the key line
toggles back to it's normal state.

> Though the protocol is not published by Icom, and the implementation varies
> a little from radio to radio, the four wires are usually labelled and none
> are "tune complete".

If you put an indicator such as an LED on the key line watching it
change state is a pretty good indication of "I'm tuning" and "Tune
complete" regardless of what it's called.

Jeff

--
"Everything from Crackers to Coffins"

2502. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 21:23:19 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j65c06$7lh$1@dont-email.me>
Source record: 3503

On 9/30/2011 3:03 PM, Owen Duffy wrote:
> Jeffrey Angus<grendelair@aim.com> wrote in news:j64hp4$i7g$1@dont-
> email.me:
>
>> The Icom tuners are specified at 16.7 to 150 ohms.
>> The LDG Z11 Pro II is specified as 2-1000 ohms.
>> Oddly enough, the MFJ Versa Tuner has no specified range.
>
> Impedance is not a simple scalar quantity as expressed above. The
> 'specification' is incomplete, you would need to ask the sellers what
> they meant.
>
> If for example, they mean the R component only, do they imply that X
> must be zero, or that X can be any value?
>
> If they mean the magnitude, do they imply that any angle of impedance is
> acceptable?

Do you just like to argue? These are published specifications from
the manufacturer. If you have an issues with the validity of their
claims, take it up with them.

I suspect both Icom and LDG took the time to play with resistive
loads to verify the tuning range. If that is the case, then yes,
it's a simple scalar quantity. I doubt they took the time to fiddle
around adding a reactive components to the test loads otherwise they
would haved published a Smith Chart with a "We can match anything
within these bounds" as the specification for tuning range.

> Also missing is any bounds on efficiency.
>
> I have heard from time to time on air, OMs boast that their tuner is so
> good, they have matched it up with no antenna plugged in. Obviously,
> efficiency is zero in that case. A tuner with lower internal losses
> might not achieve the same feat.

I am aware that a frightening majority of licensed amateurs wouldn't
be able to pour piss out of a boot with the instructions printed on
the heel. Perhaps you're unaware tha I'm not one of them.

Jeff-1.0
wa6fwi

--
"Everything from Crackers to Coffins"

2503. Re: LDG Z11 Pro II tuner with an Icom IC-761

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 21:32:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F714CC3E69E8nonenowhere@88.198.244.100>
Source record: 3504

Jeffrey Angus <grendelair@aim.com> wrote in
news:j65bfe$509$1@dont-email.me:

> On 9/30/2011 2:04 PM, Owen Duffy wrote:
>> Jeffrey Angus<grendelair@aim.com> wrote in news:j64hp4$i7g$1@dont-
>> email.me:
>>
>>> The two signals are essentially a "request to tune" and an "tune
>>> complete".
>>
>> That is not quite correct.
>
> Did you miss the word essentially?
>
> Since it bothers you. From LDG "Start Line." Ground this from an
> external switch or open collector to initiate a tuning sequence by
> the external tuner.
>
> And "Key Line" This is similar to a PTT line to the transmitter,
> but in this case tells the transmitter (which is capable of doing
> it) to, regardless of mode, transmit a low lever CW carrier.
>
> When the key line changes state because of a request to tune, it
> turns on the transmitter. When tuning is complete, the key line
> toggles back to it's normal state.
>
>> Though the protocol is not published by Icom, and the implementation
>> varies a little from radio to radio, the four wires are usually
>> labelled and none are "tune complete".
>
> If you put an indicator such as an LED on the key line watching it
> change state is a pretty good indication of "I'm tuning" and "Tune
> complete" regardless of what it's called.

The /KEY line can be used to initiate a tune carrier, it is used to
sustain the tune carrier until the tx aborts or the tuner ends the
process, and it is used by the tuner to signal whether the tune was or
was not successful.

Owen

2504. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-09-30 23:21:44 UTC
From: tom <news4792@taring.org>
Message-ID: <4e864f06$0$79797$8046368a@newsreader.iphouse.net>
Source record: 3505

On 9/30/2011 1:17 AM, Sal wrote:
> "tom"<news4792@taring.org> wrote in message
>
> I have Linux on an old machine (P3, 1 GHz, 256M RAM) that really doesn't do
> it justice. I was impressed that it recognized almost every USB device I
> plugged in, new or old. I really should get a newer machine and load it up
> with Ubuntu.
>
> Sal
>
>

As someone who is a linux bigot (within the linux world, not talking
about other OSs) I finally had to admit that Ubuntu was ok.

But the current release is not.

I would advise you stick to the 10.04LTS (long term support) release.
Ubuntu 11.xx threw out the GNOME desktop and replaced it with rubbish.
I know no one that likes the new desktop that has used the old.

We can only hope that by the time 10.04 is deprecated that GNOME will be
back.

tom
K0TAR

2505. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-01 03:17:09 UTC
From: Sal <sobars@aol.com>
Message-ID: <j660l8rch1@dont-email.me>
Source record: 3506

"tom" <news4792@taring.org> wrote in message
news:4e864f06$0$79797$8046368a@newsreader.iphouse.net...
>
> As someone who is a linux bigot (within the linux world, not talking about
> other OSs) I finally had to admit that Ubuntu was ok.
>
> But the current release is not.
>
> I would advise you stick to the 10.04LTS (long term support) release.
> Ubuntu 11.xx threw out the GNOME desktop and replaced it with rubbish. I
> know no one that likes the new desktop that has used the old.
>
> We can only hope that by the time 10.04 is deprecated that GNOME will be
> back.
>
I have 10.04. Having only half the recommended RAM (per stated system
requirements) means I'm flogging the hard drive.

"Sal"

2506. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1317448801@panix.com>
Source record: 3507
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

2507. little bite

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-01 12:17:01 UTC
From: punithavathi punithavathi <punithapuni143@gmail.com>
Message-ID: <fcc41cdb-43c4-4b96-a766-c41ec1bdb1c9@t11g2000yqa.googlegroups.com>
Source record: 3508

webpage : http://123maza.com/65/dhoby582/

2508. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-02 06:49:22 UTC
From: AJL <2579843445nomail@none.com>
Message-ID: <7t1g87t3rfqfji2athtet3h894t1s3s7ah@4ax.com>
Source record: 3509

On Fri, 30 Sep 2011 18:21:44 -0500, tom <news4792@taring.org> wrote:

>I would advise you stick to the 10.04LTS (long term support) release.
>Ubuntu 11.xx threw out the GNOME desktop and replaced it with rubbish.
>I know no one that likes the new desktop that has used the old.
>
>We can only hope that by the time 10.04 is deprecated that GNOME will be
>back.
>
>tom
>K0TAR

The current version allows you to easily revert to the old desktop if
you want. I did. But IMO there is not that much overall OS improvement
to do the upgrade unless you just want to try it which is why I did.

2509. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-02 07:08:41 UTC
From: AJL <2579843445nomail@none.com>
Message-ID: <9d2g87thg3u7aeamf16skopbr7qvifnvk1@4ax.com>
Source record: 3510

On Thu, 29 Sep 2011 21:44:52 -0500, tom <news4792@taring.org> wrote:

>On 9/29/2011 1:20 PM, dave wrote:

>> I just use Ubuntu and don't worry about it.
>
>I need Win and X windows both.

In Windows I use Firefox with the QuickJava extension. It puts on/off buttons at the bottom of the browser window that make turning on and off browser functions (flash, java, javascript, ect) quick and easy. When exploring I only leave text and images active. If I find a site I want to chance that needs flash or script I just turn it on and refresh. It's not foolproof of course but a different approach. And if I'm just reading text sites (newspaper, forums ect) I leave everything off but text and images and most of the flashy moving annoying ads which I hate are disabled which also improves the page loading time a bunch.

2510. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-02 16:17:56 UTC
From: dave <dave@dave.dave>
Message-ID: <W8-dnYJ2APopExXTnZ2dnUVZ_hWdnZ2d@earthlink.com>
Source record: 3511

On Sat, 01 Oct 2011 23:49:22 -0700, AJL wrote:

>
> The current version allows you to easily revert to the old desktop if
> you want. I did. But IMO there is not that much overall OS improvement
> to do the upgrade unless you just want to try it which is why I did.

11.04 did. 11.10 does not. I'm sticking with 10.04 LTS. The new desktop
is for morons. They are obviously trying to appeal to tablet-brains.

2511. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-02 17:16:50 UTC
From: AJL <2579843445nomail@none.com>
Message-ID: <so6h875q64ds393jedebg0vah0832r79lm@4ax.com>
Source record: 3512

On Sun, 02 Oct 2011 11:17:56 -0500, dave <dave@dave.dave> wrote:

>On Sat, 01 Oct 2011 23:49:22 -0700, AJL wrote:
>
>>
>> The current version allows you to easily revert to the old desktop if
>> you want. I did. But IMO there is not that much overall OS improvement
>> to do the upgrade unless you just want to try it which is why I did.
>
>11.04 did. 11.10 does not. I'm sticking with 10.04 LTS. The new desktop
>is for morons. They are obviously trying to appeal to tablet-brains.

Ah, I didn't realize 11.10 was out. My 11.04 is busted in that it
won't update so perhaps I'll take your advice and go with 10.04. Yes I
really tried hard to like that new desktop but just couldn't hack it
(pun intended) in the end... ;)

2512. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-03 23:52:17 UTC
From: tom <news4792@taring.org>
Message-ID: <4e8a4aae$0$79795$8046368a@newsreader.iphouse.net>
Source record: 3513

On 10/2/2011 2:08 AM, AJL wrote:
> On Thu, 29 Sep 2011 21:44:52 -0500, tom<news4792@taring.org> wrote:
>
>> On 9/29/2011 1:20 PM, dave wrote:
>
>>> I just use Ubuntu and don't worry about it.
>>
>> I need Win and X windows both.
>
> In Windows I use Firefox with the QuickJava extension. It puts on/off
> buttons at the bottom of the browser window that make turning on and
> off browser functions (flash, java, javascript, ect) quick and easy.
> When exploring I only leave text and images active. If I find a site I
> want to chance that needs flash or script I just turn it on and
> refresh. It's not foolproof of course but a different approach. And if
> I'm just reading text sites (newspaper, forums ect) I leave everything
> off but text and images and most of the flashy moving annoying ads
> which I hate are disabled which also improves the page loading time a
> bunch.

Nice. But that has nothing to do with what I was talking about.
Windows is, well, Windows. And X windows is Unix.

Neither have anything to do with browsing per se.

tom
K0TAR

2513. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-04 00:27:31 UTC
From: dave <dave@dave.dave>
Message-ID: <I_WdnSpX0rFuzxfTnZ2dnUVZ_u-dnZ2d@earthlink.com>
Source record: 3514

On Sun, 02 Oct 2011 00:08:41 -0700, AJL wrote:

> On Thu, 29 Sep 2011 21:44:52 -0500, tom <news4792@taring.org> wrote:
>
>>On 9/29/2011 1:20 PM, dave wrote:
>
>>> I just use Ubuntu and don't worry about it.
>>
>>I need Win and X windows both.
>
> In Windows I use Firefox with the QuickJava extension. It puts on/off
> buttons at the bottom of the browser window that make turning on and off
> browser functions (flash, java, javascript, ect) quick and easy. When
> exploring I only leave text and images active. If I find a site I want
> to chance that needs flash or script I just turn it on and refresh. It's
> not foolproof of course but a different approach. And if I'm just
> reading text sites (newspaper, forums ect) I leave everything off but
> text and images and most of the flashy moving annoying ads which I hate
> are disabled which also improves the page loading time a bunch.

That sounds like a lot of work. I try not to take the wed too seriously.
Like everything, it's 95% BS.

2514. [OT] Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-04 23:02:58 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnj8n44q.kgq.knock_yourself_out@shell.config.com>
Source record: 3515

On Mon, 03 Oct 2011 18:52:17 -0500, tom wrote:
> On 10/2/2011 2:08 AM, AJL wrote:
>> On Thu, 29 Sep 2011 21:44:52 -0500, tom<news4792@taring.org> wrote:
>>> On 9/29/2011 1:20 PM, dave wrote:
>>
>>>> I just use Ubuntu and don't worry about it.
>>>
>>> I need Win and X windows both.
>>
>> In Windows I use Firefox with the QuickJava extension. It puts on/off
::yaa-daa yaa-daa yaa-daa snipped
>
> Nice. But that has nothing to do with what I was talking about.
> Windows is, well, Windows. And X windows is Unix.
>
> Neither have anything to do with browsing per se.

And ABSOLUTELY NOTHING to do with rec.radio.amateur.antenna

2515. Re: [OT] Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-04 23:23:49 UTC
From: tom <news4792@taring.org>
Message-ID: <4e8b9582$0$79798$8046368a@newsreader.iphouse.net>
Source record: 3516

On 10/4/2011 6:02 PM, Allodoxaphobia wrote:
> On Mon, 03 Oct 2011 18:52:17 -0500, tom wrote:
>> On 10/2/2011 2:08 AM, AJL wrote:
>>> On Thu, 29 Sep 2011 21:44:52 -0500, tom<news4792@taring.org> wrote:
>>>> On 9/29/2011 1:20 PM, dave wrote:
>>>
>>>>> I just use Ubuntu and don't worry about it.
>>>>
>>>> I need Win and X windows both.
>>>
>>> In Windows I use Firefox with the QuickJava extension. It puts on/off
> ::yaa-daa yaa-daa yaa-daa snipped
>>
>> Nice. But that has nothing to do with what I was talking about.
>> Windows is, well, Windows. And X windows is Unix.
>>
>> Neither have anything to do with browsing per se.
>
> And ABSOLUTELY NOTHING to do with rec.radio.amateur.antenna

Then delete or plonk.

tom
K0TAR

2516. Re: [OT] Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-05 00:37:56 UTC
From: dave <dave@dave.dave>
Message-ID: <y-OdnWe0M_I5OxbTnZ2dnUVZ_jGdnZ2d@earthlink.com>
Source record: 3517

On Tue, 04 Oct 2011 23:02:58 +0000, Allodoxaphobia wrote:

>
> And ABSOLUTELY NOTHING to do with rec.radio.amateur.antenna

Absolutely?

2517. Re: [OT] Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-05 00:48:22 UTC
From: Sal <sobars@aol.com>
Message-ID: <j6g9f0$s86$1@dont-email.me>
Source record: 3518

"Allodoxaphobia" <knock_yourself_out@example.net> wrote in message
news:slrnj8n44q.kgq.knock_yourself_out@shell.config.com...
>
> And ABSOLUTELY NOTHING to do with rec.radio.amateur.antenna

Not yours to decide.

2518. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-05 11:39:14 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <dafo87l1hd4fhkc86cf62vu7k63bov4jkr@4ax.com>
Source record: 3519

On Sun, 02 Oct 2011 11:17:56 -0500, dave <dave@dave.dave> wrote:

>On Sat, 01 Oct 2011 23:49:22 -0700, AJL wrote:
>
>>
>> The current version allows you to easily revert to the old desktop if
>> you want. I did. But IMO there is not that much overall OS improvement
>> to do the upgrade unless you just want to try it which is why I did.
>
>11.04 did. 11.10 does not. I'm sticking with 10.04 LTS. The new desktop
>is for morons. They are obviously trying to appeal to tablet-brains.

The Unity desktop is usable, but not for me. I don't think it was
designed for tablets. Methinks it was an attempt to use the "extra"
screen space afforded by 16:9 displays. In effect, it leaves the menu
on the left side of the screen most of the time. I switched back to
the older Gnome 2 desktop on 10.04 and am living happily without
Unity.
<http://www.geekgumbo.com/2011/05/04/switching-the-unity-desktop-to-the-gnome-desktop/>

On Fedora 15, the new and improved Gnome 3 is in my never humble
opinion a step backwards. The designers apparently decided that
configuration options should now be either well hidden, or
intentionally misplaced in non-obvious places. Some of the logic is
amazing. For example, requiring a logout before a restart. Is there
a problem with killing user processes that justifies this?

Meanwhile, KDE 4.6 seems quite good (I haven't used it much) but
really gobbles RAM. I also tried Mac4Lin with 10.04 and had problems.
Oh well.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2519. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-05 12:35:02 UTC
From: dave <dave@dave.dave>
Message-ID: <_uudneXJoblr0xHTnZ2dnUVZ_r2dnZ2d@earthlink.com>
Source record: 3520

On Wed, 05 Oct 2011 04:39:14 -0700, Jeff Liebermann wrote:

> On Sun, 02 Oct 2011 11:17:56 -0500, dave <dave@dave.dave> wrote:
>
>>On Sat, 01 Oct 2011 23:49:22 -0700, AJL wrote:
>>
>>
>>> The current version allows you to easily revert to the old desktop if
>>> you want. I did. But IMO there is not that much overall OS improvement
>>> to do the upgrade unless you just want to try it which is why I did.
>>
>>11.04 did. 11.10 does not. I'm sticking with 10.04 LTS. The new desktop
>>is for morons. They are obviously trying to appeal to tablet-brains.
>
> The Unity desktop is usable, but not for me. I don't think it was
> designed for tablets. Methinks it was an attempt to use the "extra"
> screen space afforded by 16:9 displays. In effect, it leaves the menu
> on the left side of the screen most of the time. I switched back to the
> older Gnome 2 desktop on 10.04 and am living happily without Unity.
> <http://www.geekgumbo.com/2011/05/04/switching-the-unity-desktop-to-the-
gnome-desktop/>
>
> On Fedora 15, the new and improved Gnome 3 is in my never humble opinion
> a step backwards. The designers apparently decided that configuration
> options should now be either well hidden, or intentionally misplaced in
> non-obvious places. Some of the logic is amazing. For example,
> requiring a logout before a restart. Is there a problem with killing
> user processes that justifies this?
>
> Meanwhile, KDE 4.6 seems quite good (I haven't used it much) but really
> gobbles RAM. I also tried Mac4Lin with 10.04 and had problems. Oh well.

At least we're not spending $160 for the privilege of BSODs! I like Puppy
Linux, which I believe is GTK on top of Ubuntu. Not pretty but incredibly
responsive. Will run on anything from first gen Pentium.

2520. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-05 16:59:44 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ti1p87lmkh5124sovrpgtv07m03prqvh6j@4ax.com>
Source record: 3521

On Wed, 05 Oct 2011 07:35:02 -0500, dave <dave@dave.dave> wrote:

>At least we're not spending $160 for the privilege of BSODs! I like Puppy
>Linux, which I believe is GTK on top of Ubuntu. Not pretty but incredibly
>responsive. Will run on anything from first gen Pentium.

I haven't seen many BSOD's on Windoze boxes in maybe 10 years. The
only time I see them is when I'm playing with drivers or when I'm
trying to untrash the filesystem. I look at it differently. $160 is
a bit over 2 hours of my billable labor rate. If Windoze saves me 2
hours of time, I break even.

I think the desktop manager in Puppy Linux is JWM
<http://en.wikipedia.org/wiki/JWM>
apparently on top of Ubuntu.
<http://www.desktoplinux.com/news/NS5855706811.html>

I like AntiX for small footprint machines.
<http://antix.mepis.org>
PII with 128MB is about the minimum usable config although it will
allegedly run on older CPU's with 64MB.

Features and functions get added faster than bugs get fixed. The end
result is a bloated and buggy machine, full of useless features, that
runs at the speed of a snail. This applies to Linux distro as well as
Windoze and OS/X. "Bigger, Better, Faster.... pick any two".

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2521. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-05 17:08:26 UTC
From: dave <dave@dave.dave>
Message-ID: <h5KdnZf_p6yXEhHTnZ2dnUVZ_sidnZ2d@earthlink.com>
Source record: 3522

On Wed, 05 Oct 2011 09:59:44 -0700, Jeff Liebermann wrote:

> On Wed, 05 Oct 2011 07:35:02 -0500, dave <dave@dave.dave> wrote:
>
>>At least we're not spending $160 for the privilege of BSODs! I like
>>Puppy Linux, which I believe is GTK on top of Ubuntu. Not pretty but
>>incredibly responsive. Will run on anything from first gen Pentium.
>
> I haven't seen many BSOD's on Windoze boxes in maybe 10 years. The only
> time I see them is when I'm playing with drivers or when I'm trying to
> untrash the filesystem. I look at it differently. $160 is a bit over 2
> hours of my billable labor rate. If Windoze saves me 2 hours of time, I
> break even.
>
> I think the desktop manager in Puppy Linux is JWM
> <http://en.wikipedia.org/wiki/JWM>
> apparently on top of Ubuntu.
> <http://www.desktoplinux.com/news/NS5855706811.html>
>
> I like AntiX for small footprint machines. <http://antix.mepis.org>
> PII with 128MB is about the minimum usable config although it will
> allegedly run on older CPU's with 64MB.
>
> Features and functions get added faster than bugs get fixed. The end
> result is a bloated and buggy machine, full of useless features, that
> runs at the speed of a snail. This applies to Linux distro as well as
> Windoze and OS/X. "Bigger, Better, Faster.... pick any two".

You can run J Window Manager or GTK at the click of the mouse and a
restart of X Windows. If someone wants me to do Windows things they have
to give me a Windows box to do them on. I have an Atom netbook with XP I
use to feed my iPod. None of my ham radio stuff requires Windows. None of
my audio production requires Windows.

I use "BSODs" generically for any unrecoverable error that the 3 Finger
Mickey (or "Kill") won't fix.

2522. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-06 02:26:36 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <nm3q87tspnsekq6cec3isj0r8hs9k33rlp@4ax.com>
Source record: 3523

On Wed, 05 Oct 2011 12:08:26 -0500, dave <dave@dave.dave> wrote:

>I use "BSODs" generically for any unrecoverable error that the 3 Finger
>Mickey (or "Kill") won't fix.

Well, since you haven't been using Windoze much, you probably haven't had much experience with its stability. In my day job, I fix computahs, mostly running various Windoze mutations. I get very few unrecoverable errors, hung processes, comatose peripherals, or general weirdness, if the machine is in fairly good shape. No points for static electricity fried RAM, overheating CPU's (AMD early Athelon), buggy apps that won't die (Acrobat Reader 10.x and Skype), overly aggressive backup programs (Memeo), or various sync programs that fumble over their own semaphores (iTunes, MS ActiveSync). If I try hard, I can hang a Windoze box running any of the aforementioned. If I run alternatives, or run them in a VM sandbox, no problem. If uptime is your standard for reliability, then I can offer several weather stations running Windoze 2000 that typically stay up for months. For my personal assortment of machines, I only reboot after an update, or after a sufficiently large number of config changes to make sure I still have a working system. When a customer drags in a system that is acting "erratic" and tends to hang, it's usually either malware or the all too common bulging capacitor problem. Cleaning up the malware and replacing the bulging caps usually stabilizes the system. Incidentally, I only reinstall windoze from scratch if the malware has made such a mess that it would take me longer to fix than to reinstall.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
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http://www.LearnByDestroying.com AE6KS

2523. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-06 02:56:11 UTC
From: tom <news4792@taring.org>
Message-ID: <4e8d18c7$0$74946$8046368a@newsreader.iphouse.net>
Source record: 3524

On 10/5/2011 11:59 AM, Jeff Liebermann wrote:
> On Wed, 05 Oct 2011 07:35:02 -0500, dave<dave@dave.dave> wrote:
>
>> At least we're not spending $160 for the privilege of BSODs! I like Puppy
>> Linux, which I believe is GTK on top of Ubuntu. Not pretty but incredibly
>> responsive. Will run on anything from first gen Pentium.
>
> I haven't seen many BSOD's on Windoze boxes in maybe 10 years. The
> only time I see them is when I'm playing with drivers or when I'm
> trying to untrash the filesystem. I look at it differently. $160 is
> a bit over 2 hours of my billable labor rate. If Windoze saves me 2
> hours of time, I break even.
>

Unless that sentences you to lots more hours later. Then you cost
yourself. Beware the easy path. Or at least research it.

I have to say the front end investment on Linux has been proven to be a
better investment than Windows "ease of install" and nasty programming
environment. For instance dot net does seem to leak.

Been there, worked all sides of the argument including Apple and I'll
take Linux and Apple in that order.

tom
K0TAR

2524. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-07 00:33:05 UTC
From: tom <news4792@taring.org>
Message-ID: <4e8e48c3$0$74946$8046368a@newsreader.iphouse.net>
Source record: 3525

On 10/5/2011 9:56 PM, tom wrote:
> I have to say the front end investment on Linux has been proven to be a
> better investment than Windows "ease of install" and nasty programming
> environment. For instance dot net does seem to leak.
>

Actually I misspoke there. I have hard evidence that some parts of dot net leak. We are fighting a nasty problem at work because of that.

Managed code is not all it's cracked up to be. Especially when from certain software houses.

tom
K0TAR

2525. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-07 01:18:39 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <j6lk1p$rk10$1@tr22n12.aset.psu.edu>
Source record: 3526

On 10/5/2011 10:26 PM, Jeff Liebermann wrote:
> On Wed, 05 Oct 2011 12:08:26 -0500, dave<dave@dave.dave> wrote:
>
>> I use "BSODs" generically for any unrecoverable error that the 3 Finger
>> Mickey (or "Kill") won't fix.
>
> Well, since you haven't been using Windoze much, you probably haven't
> had much experience with its stability. In my day job, I fix
> computahs, mostly running various Windoze mutations. I get very few
> unrecoverable errors, hung processes, comatose peripherals, or general
> weirdness, if the machine is in fairly good shape. No points for
> static electricity fried RAM, overheating CPU's (AMD early Athelon),
> buggy apps that won't die (Acrobat Reader 10.x and Skype), overly
> aggressive backup programs (Memeo), or various sync programs that
> fumble over their own semaphores (iTunes, MS ActiveSync). If I try
> hard, I can hang a Windoze box running any of the aforementioned. If
> I run alternatives, or run them in a VM sandbox, no problem. If
> uptime is your standard for reliability, then I can offer several
> weather stations running Windoze 2000 that typically stay up for
> months. For my personal assortment of machines, I only reboot after
> an update, or after a sufficiently large number of config changes to
> make sure I still have a working system. When a customer drags in a
> system that is acting "erratic" and tends to hang, it's usually either
> malware or the all too common bulging capacitor problem. Cleaning up
> the malware and replacing the bulging caps usually stabilizes the
> system. Incidentally, I only reinstall windoze from scratch if the
> malware has made such a mess that it would take me longer to fix than
> to reinstall.

Funny, but my experience has been a lot different. Every month after Patch Tuesday, the phone lines would light up, as people's computers would stop working, or specific programs would stop. Some times it was because Microsoft would turn off something that was supposed to be a security problem, which just happened to be a needed feature for a program. I had one computer that every time it reached a certain place in the upgrade cycle, it would hose the OS, requiring a reinstall. Had to take a perfectly good computer off line. Even aside from instability issues - and a computer that might work one day, and not the next for no good reason is unstable - there were issues like killing DVD codec for Windows media player. Yeah nothing like a serving of pissed off users wondering why they couldn't play that demo DVD at their important meeting.

The fact is, my Windows computers had one problem after the other, while my Mac's just tended to chug along, and their users said we could take them from them after prying their cold dead fingers off them. Same for

me. I supported Windows, I did as much of my work as possible on the Mac.

There was 1 (one) case where an update made a problem for the mac users.

Windows? Couldn't even count.

Now that I'm retired, I will only be doing computer support for my family, and as my Windows Desktop just died last week, I'm going to be replacing it with a yummy 27 inch IMac, and the laptops will all be running Linux.

Free at last! Thank God Almighty, I'm free at last!

All apologies to MLK>

- 73 de Mike N3LI -

2526. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1317967500@panix.com>
Source record: 3527
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

2527. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-07 19:16:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ejju87d8oc9tpteg03mkr13r4vi8lgbq9h@4ax.com>
Source record: 3528

On Thu, 06 Oct 2011 21:18:39 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>On 10/5/2011 10:26 PM, Jeff Liebermann wrote:
>> Cleaning up
>> the malware and replacing the bulging caps usually stabilizes the
>> system.

>it would hose the OS, requiring a reinstall. Had
>to take a perfectly good computer off line.

From "The IT Crowd" (a British TV comedy program):
(answering a ringing telephone in the shop - without pause for a
Hello)
"Have you tried turning it off and back on?"
...
"Is it plugged in?"

73's
Richard Clark, KB7QHC

2528. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-07 21:26:18 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <cmqu879k9510b8ie4eh4rel0ehtk3eb6ar@4ax.com>
Source record: 3529

On Wed, 05 Oct 2011 21:56:11 -0500, tom <news4792@taring.org> wrote:

>Unless that sentences you to lots more hours later. Then you cost
>yourself. Beware the easy path. Or at least research it.

Not my pain or my decision. My customers are the Windoze users. I
also have a few Linux users. Mostly they run Linux servers and a few
desktops. In almost all cases, the decision of the OS is made by the
applications vendors or whatever apps the hired help is familiar with
using. I have little say in the matter.

One of my bad jokes is that I would be out of business if Microsoft
had done a better job. There's quite a bit of truth to that.

>I have to say the front end investment on Linux has been proven to be a
>better investment than Windows "ease of install" and nasty programming
>environment. For instance dot net does seem to leak.

I'm not a programmer, and therefore not qualified to comment on the
relative merits of programming environments. However, I have had to
deal with the multiple mutations of dot.nyet. It sucks. It's quite
common to have to uninstall all 4 mutations of dot.nyet, with a 3rd
party app, and reinstall the whole mess from scratch. I also have a
suspicion that dot.net is responsible for some bizarre application
crashes. I've seen memory leaks, but they seem to be coming from the
apps, not the libraries.

>Been there, worked all sides of the argument including Apple and I'll
>take Linux and Apple in that order.

I prefer Windoze, Linux, and Apple, in that order. My choice has
nothing to do with the quality of the product. It's in order of which
OS will make me money, and continue to support my decadent and lavish
lifestyle. Windoze needs help, I provide help, and therefore I make
money. At the other end, Apple users assume that if anything goes
wrong, it must be their own fault, and not that of the OS or apps.
They'll only ask for help if they're really desperate. Since I'm not
Apple approved, blessed, and authorized, I can buy parts or get inside
info. I'm also competing with AppleCare. Linux is a mix of the two.
Setting up complex SNMP monitoring and performance tuning is what pays
the bills. Dealing with hardware incompatibilities, is another Linux
favorite.

>tom
>K0TAR

```
--
# Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
# 831-336-2558
# http://802.11junk.com jeffl@cruzio.com
# http://www.LearnByDestroying.com AE6KS
```

2529. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-08 00:40:33 UTC
From: tom <news4792@taring.org>
Message-ID: <4e8f9bfe$0$79796$8046368a@newsreader.iphouse.net>
Source record: 3530

On 10/7/2011 4:26 PM, Jeff Liebermann wrote:
>
> I'm not a programmer, and therefore not qualified to comment on the
> relative merits of programming environments. However, I have had to
> deal with the multiple mutations of dot.nyet. It sucks. It's quite
> common to have to uninstall all 4 mutations of dot.nyet, with a 3rd
> party app, and reinstall the whole mess from scratch. I also have a
> suspicion that dot.net is responsible for some bizarre application
> crashes. I've seen memory leaks, but they seem to be coming from the
> apps, not the libraries.

And I can't say any more. Wouldn't be prudent.

tom
K0TAR

2530. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-10 02:00:38 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <j6tjkb$hg76$1@tr22n12.aset.psu.edu>
Source record: 3531

On 10/7/2011 5:26 PM, Jeff Liebermann wrote:

> One of my bad jokes is that I would be out of business if Microsoft
> had done a better job. There's quite a bit of truth to that.

It's 100 percent true. An Apple costs more than a Windows computer - although not all that much when comparable performance is taken into account, because the Apple mentality does not sell computers that are ready to be obsolete, such as the horribly underpowered Vista basic machines. But I digress. The people who own Windows computers that I work on manage to feel that they have gotten a better and cheaper deal, when in fact, by the time they have paid me for a few fixes, they have surpassed the cost of "That pricey Apple computer". They also tend to quote the price of some half a$$ed cheap PC and something like the 27 inch i7 iMac when comparing prices. Check ot the high end Sony all in one, then we can talk about prices in more of an apple to apple fashion 8^) (not that you've complained about Apple prices AFAIK.

In in the professional world, no one seems to add the labor cost of the armies of support personnel needed to keep the Windows machines running. Adds a tad to the price.

- 73 de Mike N3LI -

2531. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-10 02:39:32 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <5ol49757qvp7jfmu4hfrvmnj5t5enbv07l@4ax.com>
Source record: 3532

On Sun, 09 Oct 2011 22:00:38 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>An Apple costs more than a Windows computer -
>although not all that much when comparable performance is taken into
>account,

I beg to differ. In 2009, I went through some effort to compare Dell
and Apple computahs selling just before Christmas time:
<http://802.11junk.com/jeffl/crud/Mac-vs-PC.xls>
Only the 13" MacBook was fairly competative with the equivalent Dell.
In all other cases, Apple was twice as expensive as Dell. I went
through considerable effort to get all the hardware as identical as
possible, but there are some discrepancies. The big one is that the
cost of the firewire port is not included in the PC pricing, because
few PC's actually use firewire. I plan to bring the spreadsheet up to
date sometime in November, when Christmas prices and goodies appear.

>because the Apple mentality does not sell computers that are
>ready to be obsolete, such as the horribly underpowered Vista basic
>machines.

Interesting. My customers problems seem to revolve around hardware
and software that was insufficiently tested and is therefore infested
with bugs. The problem is not that either was obsolete. It was that
they were permaturely released. Since whomever makes it to market
first usually wins, it's understandable.

>But I digress. The people who own Windows computers that I
>work on manage to feel that they have gotten a better and cheaper deal,
>when in fact, by the time they have paid me for a few fixes, they have
>surpassed the cost of "That pricey Apple computer". They also tend to
>quote the price of some half a$$ed cheap PC and something like the 27
>inch i7 iMac when comparing prices. Check ot the high end Sony all in
>one, then we can talk about prices in more of an apple to apple fashion
>8^) (not that you've complained about Apple prices AFAIK.

Well, you're entitled to your opinion. I don't consider paying for
repairs in advance in the form of AppleCare as a great improvement.
I'll be sure to include the 27" iMac in my comparison, but it might
not be against an overpriced Sony. Nobody else has a 27" so I'll
compare the smaller screens. Very roughly, the Apple 21.5" iMac
starts at $1200. The Dell Inspiron 2320 all-in-one with a 23" screen
starts at $950.

>In in the professional world, no one seems to add the labor cost of the
>armies of support personnel needed to keep the Windows machines running.
>Adds a tad to the price.

I don't have much contact with IT except when they get into trouble.
As far as I can determine, most of IT consists of supporting users,
not machines. As near as I can determine, the level of user support
is about equal, whether Windoze, Mac, or Linux.

> - 73 de Mike N3LI -

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2532. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-10 09:17:42 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj95e1m.6h4.nomail@xs8.xs4all.nl>
Source record: 3533

Michael Coslo <mjc5@psu.edu> wrote:
> It's 100 percent true. An Apple costs more than a Windows computer -
> although not all that much when comparable performance is taken into
> account, because the Apple mentality does not sell computers that are
> ready to be obsolete, such as the horribly underpowered Vista basic
> machines.

I'm not that sure about that. At work we still have Windows XP machines
bought in 2001, and while they are very slow they still work and can
be used e.g. as Citrix terminals or for Microsoft Office 2003.

They still receive security updates from Microsoft.

Apple machines from that era are long obsolete and receive no support
at all.

2533. On topic.....vertical antenna on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-10 17:59:57 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j6vbqv$sv2$1@dont-email.me>
Source record: 3534

A few weeks back, I solicited info on a vertical antenna mounted on a metal patio cover. Here's the story to date.

First, I put up an Outbacker by using a standard automotive rack mount clamped on the conduit above the metal patio cover. The Outbacker was installed simply because it was easy to do, and I have one. Results were similar to what would be expected from an Outbacker mounted on a car. There was an unacceptable amount of cordless phone interference on 20 meters. Performance was acceptable on 10-15 meters.

Next, I removed the Outbacker and installed a 8.5 foot whip antenna. The antenna is resonant at 27.8 Mhz with about a 1.1 VSWR. At 28.5 Mhz the VSWR measures 1.8, and at 24.9 Mhz measures 2.3. Measurements were taken through about 30 feet of RG-58.

Performance of the whip is quite good on 10 and 12 meters. 12 meter performance seems better than 10 meters, but it isn't clear that propagation conditions influenced the outcome.

More experiments will be performed, but so far, so good. The unloaded whip is a simple way for me to operate on 12 and 10.

Wayne
W5GIE

2534. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 02:38:55 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <j70a86$rk1g$1@tr22n12.aset.psu.edu>
Source record: 3535

On 10/9/2011 10:39 PM, Jeff Liebermann wrote:
> On Sun, 09 Oct 2011 22:00:38 -0400, Michael Coslo<mjc5@psu.edu>
> wrote:
>
>> An Apple costs more than a Windows computer -
>> although not all that much when comparable performance is taken into
>> account,
>
> I beg to differ. In 2009, I went through some effort to compare Dell
> and Apple computahs selling just before Christmas time:

I looked at the all in one's. Dell doesn't even sell an i7, or even an i5 Biggest they have is an i3, Don't have a 27 inch monnitor, don't have a 1 TB hard drive. In addition the all in one Mac's have non-laptop components.

That's the issue I was referring to, Jeff. the Mac is called "too expensive", and it is compared to a machine that doesn't exist, so a cheaper machine is trotted out as a comparison.

So yes, the Mac is a whole lot more expensive than a machine that is a whole lot less capable. And infinitely more expensive than a machine that doesn't exist.

As I said, the closest thing I found is a Sony, and it's over 2K for a much smaller screen. Do not want.

> The big one is that the
> cost of the firewire port is not included in the PC pricing, because
> few PC's actually use firewire. I plan to bring the spreadsheet up to
> date sometime in November, when Christmas prices and goodies appear.

I do use firewire. And will use Thunderbolt. Check out the specs vs USB3.

>> because the Apple mentality does not sell computers that are
>> ready to be obsolete, such as the horribly underpowered Vista basic
>> machines.
>
> Interesting. My customers problems seem to revolve around hardware
> and software that was insufficiently tested and is therefore infested
> with bugs. The problem is not that either was obsolete. It was that
> they were permaturely released. Since whomever makes it to market
> first usually wins, it's understandable.

Mine tend to revolve around security issues, and updates that turn off needed functions to "enhance" security. As I joke with them, I note that the most secure computer is one that doesn't work any more.

>> But I digress. The people who own Windows computers that I
>> work on manage to feel that they have gotten a better and cheaper deal,
>> when in fact, by the time they have paid me for a few fixes, they have
>> surpassed the cost of "That pricey Apple computer". They also tend to
>> quote the price of some half a$$ed cheap PC and something like the 27
>> inch i7 iMac when comparing prices. Check ot the high end Sony all in
>> one, then we can talk about prices in more of an apple to apple fashion
>> 8^) (not that you've complained about Apple prices AFAIK.

> Well, you're entitled to your opinion. I don't consider paying for
> repairs in advance in the form of AppleCare as a great improvement.

Don't use Applecare, and don't need it. The one issue with the bad
Rubycon caps a few years back was taken care of via recall. And that hit
many manufacturers, Dell included. I did have a server power supply go
bad once. Haven't counted the PC machines.

> I'll be sure to include the 27" iMac in my comparison, but it might
> not be against an overpriced Sony. Nobody else has a 27" so I'll
> compare the smaller screens. Very roughly, the Apple 21.5" iMac
> starts at $1200. The Dell Inspiron 2320 all-in-one with a 23" screen
> starts at $950.

And there we go. I use a 27 inch Imac at work, and I don't want
another dinky screen.

As far as my outside computer support goes, I can make up that
difference in a short time. A couple service calls, and they might as
well spent the extra money on the Mac.

Or they can try the Geek Squad.

>> In in the professional world, no one seems to add the labor cost of the
>> armies of support personnel needed to keep the Windows machines running.
>> Adds a tad to the price.
>
> I don't have much contact with IT except when they get into trouble.
> As far as I can determine, most of IT consists of supporting users,
> not machines. As near as I can determine, the level of user support
> is about equal, whether Windoze, Mac, or Linux.

Windows and Mac. Windows is around 95 percent of the work. The biggest
problem on the Mac side is the permissions, a side effect of switching
to a Unix based system. If not for the Windows support, I wouldn't do
support at all (permission fixes take mere seconds. Weird situation,
since I'm actually a videographer.

but yeah, I'm entitled to my opinion, and you are entitled to yours. If
you want to compare lesser Windows machines to Mac's have at it.

I do have the experience of working a lot with both types - actually
Linux too, but only at home. A lot. 8 hours a day with the Mac, maybe 6
a day with Windows. I don't dislike one or another, but I do put a
premium on the thing working. My Mac's work a whole lot more, and allow

me to meet my deadlines much better than the Windows machines. And that part is fact, not opinion.

- 73 de Mike N3LI -

2535. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 02:48:36 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <j70aqb$q03e$1@tr22n12.aset.psu.edu>
Source record: 3536

On 10/10/2011 5:17 AM, Rob wrote:
> Michael Coslo<mjc5@psu.edu> wrote:
>> It's 100 percent true. An Apple costs more than a Windows computer -
>> although not all that much when comparable performance is taken into
>> account, because the Apple mentality does not sell computers that are
>> ready to be obsolete, such as the horribly underpowered Vista basic
>> machines.
>
> I'm not that sure about that. At work we still have Windows XP machines
> bought in 2001, and while they are very slow they still work and can
> be used e.g. as Citrix terminals or for Microsoft Office 2003.
>
> They still receive security updates from Microsoft.
>
> Apple machines from that era are long obsolete and receive no support
> at all.

Don't think I was arguing about that. If you can run XP on the computer, M$ will send updates. Be careful though. I had a HP Pavilion, bought in 2005, and at one particular point in the update process, it gets hosed. I ended up having to take it offline after the third time it happened.

My G5 machines still get updates.

Look, if you want, use the Windows machines. I don't really care. I do have in depth personal experience with both, and if my job was to support the Mac's I'd be out of a job. With the Windows machines, there is a lot of job security. Believe or do not believe.

My favorite part of working with the Windows fans is when I talk about someone getting a virus, or an update hosing their machine, the first thing they say is "Oh, I've never gotten a virus, then they go on to describe "there was this one time" and tell about how they got some virus that they had to wipe the drive to cure (or somesuch)

If you are happy with Windows, and it never gives you any problems, then by all means use and enjoy.

- 73 de Mike N3LI -

2536. antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 02:58:03 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <j70bc2$g87m$1@tr22n12.aset.psu.edu>
Source record: 3537

Taking a break from computers, I had an actual practical question about an antenna. Sort of hypothetical, but maybe some practical use.

Situation:

Yard with a maximum antenna possibility of 100 feet. Height around 60 -70 feet.

All band is desired

in line with that, a decision to run ladder line (not window line)

Obviously, a tuner will tune the antenna.

But an antenna cut for somewhere in the 75 or 80 meter band is often touted as a good length, around 130 feet for this antenna.

Is there an advantage to loading the antenna to place it in the band, and tune the rest, or just to string up in the available space?

Perhaps something to allow it to une easily on 160?

Or, is there anything that would contraindicate using this approach?

- 73 de Mike N3LI -

2537. Re: On topic.....vertical antenna on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 12:08:39 UTC
From: dave <dave@dave.dave>
Message-ID: <ps-dnQecnvNarAnTnZ2dnUVZ_rOdnZ2d@earthlink.com>
Source record: 3538

On Mon, 10 Oct 2011 10:59:57 -0700, Wayne wrote:

> A few weeks back, I solicited info on a vertical antenna mounted on a
> metal patio cover. Here's the story to date.
>
> First, I put up an Outbacker by using a standard automotive rack mount
> clamped on the conduit above the metal patio cover. The Outbacker was
> installed simply because it was easy to do, and I have one. Results
> were similar to what would be expected from an Outbacker mounted on a
> car. There was an unacceptable amount of cordless phone interference on
> 20 meters. Performance was acceptable on 10-15 meters.
>
> Next, I removed the Outbacker and installed a 8.5 foot whip antenna.
> The antenna is resonant at 27.8 Mhz with about a 1.1 VSWR. At 28.5 Mhz
> the VSWR measures 1.8, and at 24.9 Mhz measures 2.3. Measurements were
> taken through about 30 feet of RG-58.
>
> Performance of the whip is quite good on 10 and 12 meters. 12 meter
> performance seems better than 10 meters, but it isn't clear that
> propagation conditions influenced the outcome.
>
> More experiments will be performed, but so far, so good. The unloaded
> whip is a simple way for me to operate on 12 and 10.
>
> Wayne
> W5GIE

Vertical antennas work great if you get them a few feet in the air. I
need a second antenna for the higher HF bands, I may try a 102" whip
myself.

2538. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 12:12:17 UTC
From: dave <dave@dave.dave>
Message-ID: <ps-dnQacnvM8rwnTnZ2dnUVZ_rOdnZ2d@earthlink.com>
Source record: 3539

On Mon, 10 Oct 2011 22:58:03 -0400, Michael Coslo wrote:

> Taking a break from computers, I had an actual practical question about
> an antenna. Sort of hypothetical, but maybe some practical use.
>
> Situation:
>
> Yard with a maximum antenna possibility of 100 feet. Height around 60
> -70 feet.
>
> All band is desired
>
> in line with that, a decision to run ladder line (not window line)
>
>
> Obviously, a tuner will tune the antenna.
>
> But an antenna cut for somewhere in the 75 or 80 meter band is often
> touted as a good length, around 130 feet for this antenna.
>
> Is there an advantage to loading the antenna to place it in the band,
> and tune the rest, or just to string up in the available space?
>
> Perhaps something to allow it to une easily on 160?
>
> Or, is there anything that would contraindicate using this approach?
>
> - 73 de Mike N3LI -

I'd try an inverted V cut for 80

2539. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 13:51:39 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <5f1ba6d1-aa0a-4ce6-9af5-4beceda97ac2@i30g2000yqd.googlegroups.com>
Source record: 3540

Mike,
Would it work? I think it will certainly work. That doesn't say how -
well- it would work, naturally, but you could put some kind of signal
on almost any band.
One option with that 100 feet and an 80 meter 'length' is to just drop
about 15 feet straight down (or tilted?) on each end of that 100 foot
span. That might even work for an 160 meter 'length' but not real
well, sort of, who knows?
One option on making something link that 'tunable' is by varying the
feed line length. Or, have a really 'capable' tuner. I doubt if it
would be the "best" radiator in the world, but it can certainly be
made to work.
- 'Doc

(Wish I had that 60 - 70 foot height capability!)

2540. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 14:48:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2ml897h7ibupbuog7ekt43hnqg6vrcejme@4ax.com>
Source record: 3541

On Mon, 10 Oct 2011 22:58:03 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>All band is desired

Fan Dipole.

>But an antenna cut for somewhere in the 75 or 80 meter band is often
>touted as a good length, around 130 feet for this antenna.

As offered, dropping ends.

>Perhaps something to allow it to une easily on 160?

The 80M length with tuner shouldn't be a problem.

73's
Richard Clark, KB7QHC

2541. Re: On topic.....vertical antenna on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 16:52:16 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j71s83$8lk$1@dont-email.me>
Source record: 3542

"dave" wrote in message
news:ps-dnQecnvNarAnTnZ2dnUVZ_rOdnZ2d@earthlink.com...

On Mon, 10 Oct 2011 10:59:57 -0700, Wayne wrote:

> A few weeks back, I solicited info on a vertical antenna mounted on a
> metal patio cover. Here's the story to date.
>
> First, I put up an Outbacker by using a standard automotive rack mount
> clamped on the conduit above the metal patio cover. The Outbacker was
> installed simply because it was easy to do, and I have one. Results
> were similar to what would be expected from an Outbacker mounted on a
> car. There was an unacceptable amount of cordless phone interference on
> 20 meters. Performance was acceptable on 10-15 meters.
>
> Next, I removed the Outbacker and installed a 8.5 foot whip antenna.
> The antenna is resonant at 27.8 Mhz with about a 1.1 VSWR. At 28.5 Mhz
> the VSWR measures 1.8, and at 24.9 Mhz measures 2.3. Measurements were
> taken through about 30 feet of RG-58.
>
> Performance of the whip is quite good on 10 and 12 meters. 12 meter
> performance seems better than 10 meters, but it isn't clear that
> propagation conditions influenced the outcome.
>
> More experiments will be performed, but so far, so good. The unloaded
> whip is a simple way for me to operate on 12 and 10.
>
> Wayne
> W5GIE

<Vertical antennas work great if you get them a few feet in the air. I
<need a second antenna for the higher HF bands, I may try a 102" whip
<myself.
-
Didn't mention it, but the top of the patio cover is at about 9 feet. It is
about 16 feet by 25 feet.
The whip is a cb whip that I was going to cut to length on 10m. After
trying it on 10 and 12 through a tuner I decided to keep it as is.
-Wayne
W5GIE

2542. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-11 21:59:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F7C5B83F888Anonenowhere@88.198.244.100>
Source record: 3543

Michael Coslo <mjc5@psu.edu> wrote in news:j70bc2$g87m$1
@tr22n12.aset.psu.edu:

...
> But an antenna cut for somewhere in the 75 or 80 meter band is often
> touted as a good length, around 130 feet for this antenna.

Indeed it is stated as the minimum length andtenna (being a half wave on the lowest operating frequency), fed with open wire feed of any type, and touted as a no-brainer, you can't go wrong.

As with most simplistic advice, it is flawed.

You gave lots of info on the system, well done, but ommitted the preferred feed line length.

It may well be that your preferred feedline length should dictate the dipole length.

Owen

2543. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-12 00:41:53 UTC
From: NM5K <none@invalid.net>
Message-ID: <j72nou$833$1@dont-email.me>
Source record: 3544

On 10/10/2011 9:58 PM, Michael Coslo wrote:
> Taking a break from computers, I had an actual practical question about
> an antenna. Sort of hypothetical, but maybe some practical use.
>
> Situation:
>
> Yard with a maximum antenna possibility of 100 feet. Height around 60
> -70 feet.
>
> All band is desired
>
> in line with that, a decision to run ladder line (not window line)
>
>
> Obviously, a tuner will tune the antenna.
>
> But an antenna cut for somewhere in the 75 or 80 meter band is often
> touted as a good length, around 130 feet for this antenna.
>
> Is there an advantage to loading the antenna to place it in the band,
> and tune the rest, or just to string up in the available space?
>
> Perhaps something to allow it to une easily on 160?
>
> Or, is there anything that would contraindicate using this approach?
>
> - 73 de Mike N3LI -

In theory, for 80m use, I don't see much benefit to cutting it exactly
for 80m. The difference in matching loss should be fairly unnoticeable
as long as you are in the general ball park.
Ladder line should be pretty low loss, even with a high SWR.
So if there were to be excess loss, it would likely be the tuner.
And in this case, I don't think the difference would really be
noticeable on the air.
But... If it were me, I'd probably cut it to length anyway. But only
for the reason that I might decide to use coax at some later
date, and could still use the same wire. Or.. at least make it
too long, not too short.. That way it could be re-used with any
kind of line. But, maybe I'm just overly cheap and hate to see
a perfectly good stretch of wire go to waste.. :/

For 160 use, I'd feed it as a single conductor. Either short the
feed line, or feed just one leg. I'd generally prefer to short the
feed line to add more top loading. Makes it act like a T vertical.

If you fed one leg, it would be like an inv L. Either way should be easier to match with a lower loss than trying to feed it as a 1/2 size dipole. The tuner loss will get you in most cases trying to do that.

2544. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-12 02:11:03 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <j72t00$ds1o$1@tr22n12.aset.psu.edu>
Source record: 3545

On 10/11/2011 9:51 AM, 'Doc wrote:

> (Wish I had that 60 - 70 foot height capability!)

Here in Park Forest (i kid you not) we have some really amazing oak trees. I could get 100 feet if I didn't mind the droop in the middle for all the movement.

- 73 de Mike N3LI -

2545. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-12 02:20:00 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <j72tgq$ok38$1@tr22n12.aset.psu.edu>
Source record: 3546

On 10/11/2011 5:59 PM, Owen Duffy wrote:
>
> You gave lots of info on the system, well done, but ommitted the preferred
> feed line length.
>
> It may well be that your preferred feedline length should dictate the
> dipole length.

Lessee, I have standoffs holding the present window line, and can back
of the envelope this. five feet to the roofline, then 25 feet to
transition to where it heads verticaly. Then allowing for some droop,
I'd say another 40 feet given the 20 foot roof height.

So we're looking at around 90 feet total, not counting the foot or so in
the house.

- 73 de Mike N3LI -

2546. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-12 02:54:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F7C8D7A89506nonenowhere@88.198.244.100>
Source record: 3547

Michael Coslo <mjc5@psu.edu> wrote in
news:j72tgq$ok38$1@tr22n12.aset.psu.edu:

> So we're looking at around 90 feet total, not counting the foot or so
> in the house.

One of the risks of using a centre fed dipole with arbitrary open wire feed is that you may find the impedance at the tx end of the line to be extreme on some bands, driving problems with volage baluns, and ATUs.

In the case of a 80m half wave, feedline lengths near 60' and 180' are likely to be troublesome. Same dipole on 40m and feedline lengths near 60' and 120' are likely to be troublesome.

Some folk would advise feeding at a current maximum, but of course, for this dipole, a current maximum for 80m at the tx end of the feedline is a voltage maximum for 40m.

Your 90' option might well be effective in avoiding some of the impedance extremes on the lower bands that damage componets, cause excessive loss, or are just difficult to match.

Owen

2547. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-12 11:41:08 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <a11072c8-80b2-45c5-a112-0db397f07ced@j31g2000vbl.googlegroups.com>
Source record: 3548

On Oct 10, 9:58 pm, Michael Coslo <m...@psu.edu> wrote:
> Yard with a maximum antenna possibility of 100 feet.

Make it 102' and you could hang a G5RV for 75m, 40m, 20m & 12m.

> Or, is there anything that would contraindicate using this approach?

The SWR on the ladder-line will be very high (~30:1) on 75m and too high on 160m. When a dipole is less than 1/2WL on the lowest frequency of operation, the feedpoint resistance goes down and the feedpoint reactance goes up as the frequency is decreased. As the antenna-length/wavelength ratio goes down, the SWR goes up. Here is some information on a 130' all-HF band ladder-line fed dipole.

http://www.w5dxp.com/notuner.htm

One could short the ladder-line wires together and feed the antenna against ground for 160m operation.
--
73, Cecil, w5dxp.com

2548. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-13 04:03:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4e96631e$0$79799$8046368a@newsreader.iphouse.net>
Source record: 3549

On 10/9/2011 9:39 PM, Jeff Liebermann wrote:
> On Sun, 09 Oct 2011 22:00:38 -0400, Michael Coslo<mjc5@psu.edu>
> wrote:
>> In in the professional world, no one seems to add the labor cost of the
>> armies of support personnel needed to keep the Windows machines running.
>> Adds a tad to the price.
>
> I don't have much contact with IT except when they get into trouble.
> As far as I can determine, most of IT consists of supporting users,
> not machines. As near as I can determine, the level of user support
> is about equal, whether Windoze, Mac, or Linux.
>
>> - 73 de Mike N3LI -
>

The support costs I've noticed, starting with IBM 360/65 (1973), are
people followed by people followed by people. Somewhere below the
people is hardware.

Been in the middle of it since 1975 starting as a programming assistant
in a college data center. Where we presented decks to the priests.

As a programming assistant the most frequent things I saw were questions
from the grad students like - "How do I make it fit?", "How do I make it
fast?", "Why doesn't it work?". Users who would spend 18 hours a day
dug into the math of what they were trying to solve, but refused to
spend 4 hours once learning the tool they used to solve the simulations.

I knew nothing of what they were trying to prove. But I always managed
to get the programs to fit, run fast as possible, and not "doesn't work".

Some things never change.

tom
K0TAR

Disclaimer - this comment is about academics and offices, not data centers.

2549. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-13 10:03:35 UTC
From: Clifford Heath <foo@bar.com>
Message-ID: <XHylq.3178$ZC1.731@newsfe20.iad>
Source record: 3550

On Wed, 28 Sep 2011 19:55:48 -0500, tom wrote:
> For instance, anyone who went to mysql.com from unknown date until late
> 9/26/2011 got malware for free with no effort

Mysql is malware itself, purporting to be a relational database, written by people who couldn't be bothered reading a book (for example) to learn what a transaction is. More harm and data loss can be blamed on people trusting it than on any malware.

2550. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-13 15:17:36 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <1e101b52-4273-4897-8b9c-ae07ae17a819@f11g2000yqf.googlegroups.com>
Source record: 3451

Just Visite These Sites

http://fashion1298.blogspot.com

http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2551. Re: back and front MALWARE girl

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-13 23:54:41 UTC
From: tom <news4792@taring.org>
Message-ID: <4e977a40$0$74946$8046368a@newsreader.iphouse.net>
Source record: 3452

On 10/13/2011 5:03 AM, Clifford Heath wrote:
> On Wed, 28 Sep 2011 19:55:48 -0500, tom wrote:
>> For instance, anyone who went to mysql.com from unknown date until late
>> 9/26/2011 got malware for free with no effort
>
> Mysql is malware itself, purporting to be a relational database, written
> by people who couldn't be bothered reading a book (for example) to learn
> what a transaction is. More harm and data loss can be blamed on people
> trusting it than on any malware.

Ahh, a troll. How refreshing.

tom
K0TAR

2552. Re: MicroDEM

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-14 13:21:58 UTC
From: George Csahanin <georgec@dyb.com>
Message-ID: <j79d1u$e7f$1@dont-email.me>
Source record: 3453

Bill, don't know if you got an answer or not, but just saw your note, and though I would have sworn it would combine gz filed I just tried it and it errored on combining two adjacent dem.gz files but after uncompressing combined them fine.

I use gunzip for uncompressing.

Also, mine identifies as version 10.0 build in 2006. Version 7 may be too old, I think they kept developing after the author retired. I may be confusing this with another free package, but I'm pretty sure that's it. In fact I need to upgrade.

GeorgeC
W2DB

"Bill Ogden" <billogden@optonline.net> wrote in message
news:4e6a26ce$0$4382$607ed4bc@cv.net...
>I am trying to use HFTA (from the 20th Edition Antenna Book) and am a
>little confused in the MicroDEM stage. I downloaded two DEM.gz files and
>placed them in C:\mapdata\DEMs\xxxxx.gz and yyyyy.gz. (I need two files
>because I am located near a boundary.) Should these gz files be expanded
>before using? How?
>
> ----
>
> The MicroDEM setup instructions (page 31) say to click on the "Weapons
> fan" icon. I do not see this icon on the MICRODEM 7.0 window. Also, at
> this point, should I be seeing a map?
>
> I am a little confused about the next step.
>
> Bill
> W2WO
>

2553. Re: MicroDEM

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-14 17:50:13 UTC
From: George Csahanin <georgec@lintv.com>
Message-ID: <j79sojpee1@dont-email.me>
Source record: 3454

Just checked my version 12 here in the office and it will combine zipped
DEMs.

Version 10 at home would not.

File>Data Manipulation>Merge>Dems>Dems--Pick Multiple

And select the two you want.

Afetr the merge is over you can give the merged file a name.

Their download page:
http://www.usna.edu/Users/oceano/pguth/website/microdem/microdemdown.htm

GeorgeC

"George Csahanin" <georgec@dyb.com> wrote in message
news:j79d1u$e7f$1@dont-email.me...
> Bill, don't know if you got an answer or not, but just saw your note, and
> though I would have sworn it would combine gz filed I just tried it and it
> errored on combining two adjacent dem.gz files but after uncompressing
> combined them fine.
>
> I use gunzip for uncompressing.
>
> Also, mine identifies as version 10.0 build in 2006. Version 7 may be too
> old, I think they kept developing after the author retired. I may be
> confusing this with another free package, but I'm pretty sure that's it.
> In fact I need to upgrade.
>
> GeorgeC
> W2DB
>
>
>
> "Bill Ogden" <billogden@optonline.net> wrote in message
> news:4e6a26ce$0$4382$607ed4bc@cv.net...
>>I am trying to use HFTA (from the 20th Edition Antenna Book) and am a
>>little confused in the MicroDEM stage. I downloaded two DEM.gz files and
>>placed them in C:\mapdata\DEMs\xxxxx.gz and yyyyy.gz. (I need two files
>>because I am located near a boundary.) Should these gz files be expanded
>>before using? How?
>>
>> ----
>>
>> The MicroDEM setup instructions (page 31) say to click on the "Weapons

>> fan" icon. I do not see this icon on the MICRODEM 7.0 window. Also, at
>> this point, should I be seeing a map?
>>
>> I am a little confused about the next step.
>>
>> Bill
>> W2WO
>>
>
>

2554. Re: On topic.....vertical antenna on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-16 02:08:08 UTC
From: Sal <sobars@aol.com>
Message-ID: <j7deab$mr7$1@dont-email.me>
Source record: 3455

"Wayne" <mygarbagecan@verizon.net> wrote in message
news:j6vbqv$sv2$1@dont-email.me...
>
> I put up an Outbacker by using a standard automotive rack mount clamped on
> the conduit above the metal patio cover. The Outbacker was installed
> simply because it was easy to do, and I have one. Results were similar to
> what would be expected from an Outbacker mounted on a car. There was an
> unacceptable amount of cordless phone interference on 20 meters.

< Snip >

>
> Wayne
> W5GIE

The cordless phone interference may be due to the power supply/charger. (I have a little wall wart that I use for my 220 HT during weekly local nets. It's so nasty that I need to unplug it when we shift to HF. Someday I will replace it. Someday I will do lots of things.)

"Sal"
(KD6VKW)

2555. Re: On topic.....vertical antenna on metal patio cover

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-16 17:33:05 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j7f4g8hlr1@dont-email.me>
Source record: 3456

"Sal" <sobars@aol.com> wrote in message news:j7deab$mr7$1@dont-email.me...
>
> "Wayne" <mygarbagecan@verizon.net> wrote in message
> news:j6vbqv$sv2$1@dont-email.me...
>>
>> I put up an Outbacker by using a standard automotive rack mount clamped
>> on the conduit above the metal patio cover. The Outbacker was installed
>> simply because it was easy to do, and I have one. Results were similar
>> to what would be expected from an Outbacker mounted on a car. There was
>> an unacceptable amount of cordless phone interference on 20 meters.
>
> < Snip >
>
>>
>> Wayne
>> W5GIE
>
> The cordless phone interference may be due to the power supply/charger.
> (I have a little wall wart that I use for my 220 HT during weekly local
> nets. It's so nasty that I need to unplug it when we shift to HF. Someday
> I will replace it. Someday I will do lots of things.)
>
> "Sal"
> (KD6VKW)
Yes, quite likely as the wall wart is located about 1/4 wave on 20 m from
the antenna, and there are various possible paths. With the weather
moderating, I'll be doing antenna projects soon. The goal is 40-10 meters.
I have a separate 6 m whip on the patio cover also, but it doesn't seem to
operate as well as an attic dipole. I'll verify that when 6 opens up a bit.
--Wayne
W5GIE
-exiled in W6 land :)

2556. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-16 19:39:37 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <16006b4e-b98f-4807-8e0c-2f8e5ad26d10@u9g2000vby.googlegroups.com>
Source record: 3457

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http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2557. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-17 06:45:29 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <66dbe578-3c38-4458-8ef6-e28e04d56d6a@n18g2000vbv.googlegroups.com>
Source record: 3458

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http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2558. SOUTH INDIAN HOT ACTRESS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-17 14:09:28 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <bc77a190-756d-4bf1-b776-4b96a6025ff5@p35g2000prp.googlegroups.com>
Source record: 3459

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http://goodjobssites.blogspot.com/

7TH SENSE MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/10/7th-sense-movie-stills.html
MOGUDU MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/mogudu-movie-stills.html
HANSIKA MATOWNI LATEST HOT STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/hansika-motwani.html
KAJAL AGARWAL HOT PHOTOS
http://actressgallery-kalyani.blogspot.com/2011/09/kajal-agarwal.html
TAMANNA SIRUTHAI HOT MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/siruthai-movie-stills.html
SNEHA HOT GOA MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/goa-movie-stills.html
HOT KATRINA KAIF PHOTOS
http://actressgallery-kalyani.blogspot.com/2011/09/katrina-kaif.html
AISHWARYA RAI HOT HQ PHOTO STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/aishwarya-rai.html
ASIN HOT PHOTO GALLERY
http://actressgallery-kalyani.blogspot.com/2011/09/asin.html

FOR ONLY HOT GUYS SEE THIS
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http://hotactress-kalyani.blogspot.com/2011/09/priyamani-hot.html
SAMANTHA LATEST HOT STILLS
http://hotactress-kalyani.blogspot.com/2011/09/samantha-hot.html
ANJALI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/10/anjali-hot.html
HANSIKA MOTWANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/10/hansika-motwani-hot.html
KAJAL AGARWAL LATEST HOT WITHOUT TOP
http://hotactress-kalyani.blogspot.com/2011/08/kajal-agarwal-hot-photos.html
TAMANNA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/tamanna-hot.html
PRANITHA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/pranitha-hot.html
HOT KATRINAKAIF WALLPAPERS
http://hotactress-kalyani.blogspot.com/2011/08/katrina-kaif-hot.html
HOT MALLU ACTRESS BHAMA
http://hotactress-kalyani.blogspot.com/2011/09/bhama-hot.html
TOLLYWOOD HOT ACTRESSES
http://hotactress-kalyani.blogspot.com/2011/08/hot-actrsess.html
SONAKSHI SINHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/sonakshi-sinha-hot.html

PRIYANKA CHOPRA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/priyanka-chopra-hot.html

LATEST AMISHA PATEL HOT PICS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TAPSEE DIFFERENT STILLS
http://hotactress-kalyani.blogspot.com/2011/08/tapsee-hot.html
PRIYAMANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/priyamani-hot.html

2559. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-18 15:01:54 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <337228ae-30c3-41d3-9ada-c60a7d1082b4@f36g2000vbm.googlegroups.com>
Source record: 3460

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http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2560. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-19 08:28:09 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <8243e547-4c48-474e-b2e5-9f0134b2b895@f13g2000vbv.googlegroups.com>
Source record: 3461

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http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2561. Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-19 12:42:14 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4e9ec5a5$0$8438$65785112@news.neostrada.pl>
Source record: 3462

You all know that the frequency from a satellite is changing.

Does anybody know if the frequency from a spacecraft reacts on the orbital speed of the Earth.
S*

2562. Re: Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-19 13:35:34 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnj9tkh6.udp.nomail@xs8.xs4all.nl>
Source record: 3463

Szczepan Bialek <sz.bialek@wp.pl> wrote:
> You all know that the frequency from a satellite is changing.
>
> Does anybody know if the frequency from a spacecraft reacts on the orbital
> speed of the Earth.
> S*

No, what you hear is mainly due to the orbital speed of the
satellite around the earth. The satellite has a speed relative
to the observer, and the resulting doppler shift makes the apparent
frequency of the satellite change.

When using a linear transponder, the situation becomes more complex
because both the speed relative to the transmitter and the speed relative
to the receiver have to be taken into account.

2563. Re: Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-19 15:51:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4e9ef20e$0$2192$65785112@news.neostrada.pl>
Source record: 3464

Uzytkownik "Rob" <nomail@example.com> napisal w wiadomosci
news:slrnj9tkh6.udp.nomail@xs8.xs4all.nl...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>> You all know that the frequency from a satellite is changing.
>>
>> Does anybody know if the frequency from a spacecraft reacts on the
>> orbital
>> speed of the Earth.
>> S*
>
> No, what you hear is mainly due to the orbital speed of the
> satellite around the earth. The satellite has a speed relative
> to the observer, and the resulting doppler shift makes the apparent
> frequency of the satellite change.
>
> When using a linear transponder, the situation becomes more complex
> because both the speed relative to the transmitter and the speed relative
> to the receiver have to be taken into account.

I have found the two old measurements:
"In 1818 Arago found that the refraction of a prism for star light was the
same for light incident in the direction of the earth's orbital velocity v
as for that coming in the opposite direction. This unexpected null result
was explained that same year by Fresnel's ether-dray theory, which assumed
partial ether entrainment in transparent media by an amount depending upon
the first power of v." From: http://www.3rd1000.com/chronoatoms.htm

And:

2. Vogel, H. C., "On the spectrographic method of determining the velocity
of
stars in the line of sight", Monthly Notices of the Royal Astronomical
Society, Vol. 52, p.87, 1891 >
"The first result of any importance which the spectrographic method
furnished was the proof of the influence of the Earth's motion on the
displacement, which the earlier direct observations had failed to show
with certainity. [...]" From:
http://adsabs.harvard.edu/abs/1891MNRAS..52...87V

Who was right: Arago or Vogel?
The spectroscopy and the spectrography are not accurate.
The radio waves are.
S*

2564. Re: Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-19 22:31:21 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <VpidnVv2PJ0l0gLTnZ2dnUVZ_vidnZ2d@earthlink.com>
Source record: 3465

The Doppler effect comes into play anytime two objects are moving relative
to each other.

Ham satellites often go up on one sideband and retransmit on the opposit
sideband to help counter this effect.

"Szczepan Bialek" <sz.bialek@wp.pl> wrote in message
news:4e9ec5a5$0$8438$65785112@news.neostrada.pl...
> You all know that the frequency from a satellite is changing.
>
> Does anybody know if the frequency from a spacecraft reacts on the orbital
> speed of the Earth.
> S*
>

2565. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 06:50:53 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <118bcf54-3c98-4604-9264-3a823d24cd6c@p1g2000yqk.googlegroups.com>
Source record: 3466

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http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2566. Re: Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 07:12:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4e9fc9e2$0$5820$65785112@news.neostrada.pl>
Source record: 3467

"Ralph Mowery" <rmowery28146@earthlink.net> napisa&#65533; w wiadomo&#65533;ci
news:VpidnVv2PJ0l0gLTnZ2dnUVZ_vidnZ2d@earthlink.com...
> The Doppler effect comes into play anytime two objects are moving relative
> to each other.
>
> Ham satellites often go up on one sideband and retransmit on the opposit
> sideband to help counter this effect.
>
>
> "Szczepan Bialek" <sz.bialek@wp.pl> wrote in message
> news:4e9ec5a5$0$8438$65785112@news.neostrada.pl...
>> You all know that the frequency from a satellite is changing.
>>
>> Does anybody know if the frequency from a spacecraft reacts on the
>> orbital speed of the Earth.
>> S*
>>
Now we know that the frequency from the stars reacts on the rotational speed
of the Earth (in agreemment with the Michelson-Gale experiment).

By the analogy the frequency should not react on the orbital speed (MM
experiment).

But I could not find the answer.
S*
>

2567. Re: Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 08:56:19 UTC
From: JC <menardjc@orange.fr>
Message-ID: <4e9fe233$0$18802$ba4acef3@reader.news.orange.fr>
Source record: 3468

Sorry I don't understand: "the frequency from the stars reacts on the
rotational speed of the Earth". Can you help ?
What is the "frequency" from the stars ?
JC

"Szczepan Bialek" <sz.bi:alek@wp.pl> a crit dans le message de news:
4e9fc9e2$0$5820$65785112@news.neostrada.pl...
>
> "Ralph Mowery" <rmowery28146@earthlink.net> napisa w wiadomo ci
> news:VpidnVv2PJ0l0gLTnZ2dnUVZ_vidnZ2d@earthlink.com...
>> The Doppler effect comes into play anytime two objects are moving
>> relative to each other.
>>
>> Ham satellites often go up on one sideband and retransmit on the opposit
>> sideband to help counter this effect.
>>
>>
>> "Szczepan Bialek" <sz.bialek@wp.pl> wrote in message
>> news:4e9ec5a5$0$8438$65785112@news.neostrada.pl...
>>> You all know that the frequency from a satellite is changing.
>>>
>>> Does anybody know if the frequency from a spacecraft reacts on the
>>> orbital speed of the Earth.
>>> S*
>>>
> Now we know that the frequency from the stars reacts on the rotational
> speed of the Earth (in agreemment with the Michelson-Gale experiment).
>
> By the analogy the frequency should not react on the orbital speed (MM
> experiment).
>
> But I could not find the answer.
> S*

2568. Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 12:19:56 UTC
From: béo-master <beorien@wanadoo.fr>
Message-ID: <4ea011cc$0$30756$ba4acef3@reader.news.orange.fr>
Source record: 3469

HI,

I picked up two coils that could be a trap for the CWA-840 COMET
antenna. (They have two stickers "CL-840").
The manual of the CWA-840 says : 40/80m dipole.

I found amazing that there isn't any capacitor in // of these coils...
These coils measure 76uH.
Could someone tell me how they works ?
In the manual of the CWA-840, each leg of the 7MHz section, is
11.1meters in lenght , wich, it seems to me, that it is rather longer
that 1/4 wave. (10.1m).
Why ?

Thanks a lot for your answers

CWA-840:

-----[ ]-------------ooo--//--
2.3m coil 11.1m balun

2569. Re: Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 12:43:36 UTC
From: dave <dave@dave.dave>
Message-ID: <D_2dnfTidqrlij3TnZ2dnUVZ_sWdnZ2d@earthlink.com>
Source record: 3470

On Thu, 20 Oct 2011 10:56:19 +0200, JC wrote:

> Sorry I don't understand: "the frequency from the stars reacts on the
> rotational speed of the Earth". Can you help ? What is the "frequency"
> from the stars ? JC
>
http://en.wikipedia.org/wiki/Redshift

2570. Re: Doppler effect

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 15:41:15 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ea0411d$0$5801$65785112@news.neostrada.pl>
Source record: 3471

"JC" <menardjc@orange.fr> napisa&#65533; w wiadomo&#65533;ci
news:4e9fe233$0$18802$ba4acef3@reader.news.orange.fr...
> Sorry I don't understand: "the frequency from the stars reacts on the
> rotational speed of the Earth". Can you help ?
> What is the "frequency" from the stars ?

Each waves has the frequency. The light frequency measured on the Earth
has the diurinal changes (in agreement with the Michelson-Gale experiment).
But what with the annual changes?
S*
> JC
>
> "Szczepan Bialek" <sz.bi:alek@wp.pl> a &#65533;crit dans le message de news:
> 4e9fc9e2$0$5820$65785112@news.neostrada.pl...
>>
>> "Ralph Mowery" <rmowery28146@earthlink.net> napisa&#65533; w wiadomo&#65533;ci
>> news:VpidnVv2PJ0l0gLTnZ2dnUVZ_vidnZ2d@earthlink.com...
>>> The Doppler effect comes into play anytime two objects are moving
>>> relative to each other.
>>>
>>> Ham satellites often go up on one sideband and retransmit on the opposit
>>> sideband to help counter this effect.
>>>
>>>
>>> "Szczepan Bialek" <sz.bialek@wp.pl> wrote in message
>>> news:4e9ec5a5$0$8438$65785112@news.neostrada.pl...
>>>> You all know that the frequency from a satellite is changing.
>>>>
>>>> Does anybody know if the frequency from a spacecraft reacts on the
>>>> orbital speed of the Earth.
>>>> S*
>>>>
>> Now we know that the frequency from the stars reacts on the rotational
>> speed of the Earth (in agreemment with the Michelson-Gale experiment).
>>
>> By the analogy the frequency should not react on the orbital speed (MM
>> experiment).
>>
>> But I could not find the answer.
>> S*
>
>

2571. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 18:43:43 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <f6b7478c-ed81-42b4-8d56-8702f884e59d@q12g2000yqe.googlegroups.com>
Source record: 3472

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http://goldandsilverpk.blogspot.com

2572. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 22:28:06 UTC
From: Sal <sobars@aol.com>
Message-ID: <j7q79u$n2p$1@dont-email.me>
Source record: 3473

"b&#65533;o-master" <beorien@wanadoo.fr> wrote in message
news:4ea011cc$0$30756$ba4acef3@reader.news.orange.fr...
> HI,
>
> I picked up two coils that could be a trap for the CWA-840 COMET antenna.
> (They have two stickers "CL-840").
> The manual of the CWA-840 says : 40/80m dipole.
>
> I found amazing that there isn't any capacitor in // of these coils...
> These coils measure 76uH.
> Could someone tell me how they works ?
> In the manual of the CWA-840, each leg of the 7MHz section, is
> 11.1meters in lenght , wich, it seems to me, that it is rather longer
> that 1/4 wave. (10.1m).
> Why ?
>
> Thanks a lot for your answers
>
> CWA-840:
>
> -----[ ]----------ooo--//--
> 2.3m coil 11.1m balun
>

All coils are self-resonant at some frequency. Wind it right and off you
go!

"Sal"

2573. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-20 22:32:26 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j7q7hu$h9t$5@dont-email.me>
Source record: 3474

On 10/20/2011 5:28 PM, Sal wrote:
> "bï¿½o-master"<beorien@wanadoo.fr> wrote in message
> news:4ea011cc$0$30756$ba4acef3@reader.news.orange.fr...
>> HI,
>>
>> I picked up two coils that could be a trap for the CWA-840 COMET antenna.
>> (They have two stickers "CL-840").
>> The manual of the CWA-840 says : 40/80m dipole.
>>
>> I found amazing that there isn't any capacitor in // of these coils...
>> These coils measure 76uH.
>> Could someone tell me how they works ?
>> In the manual of the CWA-840, each leg of the 7MHz section, is
>> 11.1meters in lenght , wich, it seems to me, that it is rather longer
>> that 1/4 wave. (10.1m).
>> Why ?
>>
>> Thanks a lot for your answers
>>
>> CWA-840:
>>
>> -----[ ]-------------ooo--//--
>> 2.3m coil 11.1m balun
>>
>
> All coils are self-resonant at some frequency. Wind it right and off you
> go!
>
> "Sal"
>
>

Good point, Sal. I hope the OP has a GDO to tell him the self-resonant frequency. If not, there are other ways.

John, KD5YI

2574. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-21 04:49:32 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <03feece6-26e8-4a29-8a8c-595b5457b8d8@c25g2000yqn.googlegroups.com>
Source record: 3475

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http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2575. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-21 11:17:38 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <35866b47-a474-44a7-ad1d-d16629dff6a6@u9g2000vby.googlegroups.com>
Source record: 3476

http://www.w8ji.com/traps.htm

2576. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-21 16:44:07 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j7s7l7elm1@dont-email.me>
Source record: 3477

"W5DXP" wrote in message
news:35866b47-a474-44a7-ad1d-d16629dff6a6@u9g2000vby.googlegroups.com...

>http://www.w8ji.com/traps.htm
-
Cool!

2577. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 05:00:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F86A2E9AD7B0nonenowhere@88.198.244.100>
Source record: 3478

b&#65533;o-master <beorien@wanadoo.fr> wrote in
news:4ea011cc$0$30756$ba4acef3@reader.news.orange.fr:

> HI,
>
> I picked up two coils that could be a trap for the CWA-840 COMET
> antenna. (They have two stickers "CL-840").
> The manual of the CWA-840 says : 40/80m dipole.
>
> I found amazing that there isn't any capacitor in // of these coils...
> These coils measure 76uH.

That is a rather simplistic characterisation of the trap. If you were to measure its impedance over a wide range of frequency, the data would give a better idea of the extent of any parallel capacitance (and there has to be some, even if only stray capacitance. Somethimes the capacitance is between some metal tubes that make the end supports for the trap.

Note that measuring the impedance of traps is very challenging.

> Could someone tell me how they works ?

The trap introduces some reactance and resistance that is intended with appropriate conductor lengths, to give a modestly low VSWR at the frequencies of interest.

The traditional explanation is that they are resonant at one of the frequencies of operation, and act like a switch, cutting off current to the outboard legs. Of course, current would flow in the outboard legs eve if you used a physical switch.

That explanation is appealing, but limits your options. There are advantages is making the resonant frequency of a trap fall outside the bands of interest.

> In the manual of the CWA-840, each leg of the 7MHz section, is
> 11.1meters in lenght , wich, it seems to me, that it is rather
> longer that 1/4 wave. (10.1m).
> Why ?

See above.
>
> Thanks a lot for your answers
>
> CWA-840:
>

> -----[ ]-------------ooo--//--
> 2.3m coil 11.1m balun

The trap is probably self resonant below 40m... but that is just a guess
from experience of having designed such things.

Owen

>

2578. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 06:31:24 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <72d811eb-b320-47ab-9ff1-7ec809f9a744@n13g2000vbv.googlegroups.com>
Source record: 3479

Just Visite These Sites

http://fashion1298.blogspot.com

http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2579. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 07:56:31 UTC
From: béo-master <beorien@wanadoo.fr>
Message-ID: <4ea2770f$0$30794$ba4acef3@reader.news.orange.fr>
Source record: 3480

Thanks a lot for your answers.
I have now most of the explainations.
Thanks for the links. (I had already read some)

2580. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 10:21:08 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <201110221021.UTC.j7u5en$1e8$1@tioat.net>
Source record: 3481

On 10/20/2011 09:19 AM, bï¿½o-master wrote:
> HI,
>
> I picked up two coils that could be a trap for the CWA-840 COMET
> antenna. (They have two stickers "CL-840").
> The manual of the CWA-840 says : 40/80m dipole.
>
> I found amazing that there isn't any capacitor in // of these coils...
> These coils measure 76uH.
> Could someone tell me how they works ?
> In the manual of the CWA-840, each leg of the 7MHz section, is
> 11.1meters in lenght , wich, it seems to me, that it is rather longer
> that 1/4 wave. (10.1m).
> Why ?
>
> Thanks a lot for your answers
>
> CWA-840:
>
> -----[ ]-------------ooo--//--
> 2.3m coil 11.1m balun
>
This is not a trap antenna:

1)- At 40 meters the coil works like a medium impedance insulator,76uH
represents 5300 ohms.

2)- At 80 meters, the antenna works like a vertical mobile antenna, the
coil resonates with the 2.3m section.

I made several of these antennas years ago, and the 40 meter section is
always longer than in a simple 40 meter dipole.
--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

2581. Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 20:14:12 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <nuFoq.544$Zc.456@newsfe14.iad>
Source record: 3482

Hi
I have a sauna with electric heater 7000watts. Nice area on top to put some rocks and I see others have suggested lava rocks. What if I put granite or limestone? That is what I have there now, they haven't cracked or exploded after spraying water on them. They look nice, some red, some different colors. Is there any harm in using granite or limestone apposed to using lava rocks? I am sure they were all the same a few million years ago,,, any reasons why I shouldn't use the granite or limestone rocks? Radiation? Emmisions of sometype? inevidable that they will explode? nuclear meltdown of some kind? I figure the temperature is around 200 or 300 degs.

Any thoughts please and thanks?

2582. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 20:33:04 UTC
From: "Helmut Wabnig"
Message-ID: <43a6a7p0f54vunept87ifo7vfqpo49v348@4ax.com>
Source record: 3483

On Sat, 22 Oct 2011 16:14:12 -0400, " Tuuk" <abraaaa@cadabraaaa.ca>
wrote:

>Hi
>I have a sauna with electric heater 7000watts. Nice area on top to put some
>rocks and I see others have suggested lava rocks. What if I put granite or
>limestone? That is what I have there now, they haven't cracked or exploded
>after spraying water on them. They look nice, some red, some different
>colors. Is there any harm in using granite or limestone apposed to using
>lava rocks? I am sure they were all the same a few million years ago,,, any
>reasons why I shouldn't use the granite or limestone rocks? Radiation?
>Emmisions of sometype? inevidable that they will explode? nuclear meltdown
>of some kind? I figure the temperature is around 200 or 300 degs.
>
>Any thoughts please and thanks?

Piss off, faker.
No thanks.
w.

2583. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 20:42:15 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <GUFoq.11793$EI.9525@newsfe19.iad>
Source record: 3484

Hey, sorry it is off topic,

But received intelligent advice here before, thought I could hear some thoughts.

To answer a bit of my own question, I found that certain granite rocks handle well up to 800 degs. I thought regular iron turned red about 700 degs. The rocks I have are simply right from the river side and not been treated or anything. Just curious as to other concerns or issues that may come to mind. Maybe I will tell you in about a year what the experience is. Maybe too simple a question.

73s

"Helmut Wabnig" <hwabnig@.- --- -.dotat> wrote in message news:43a6a7p0f54vunept87ifo7vfqpo49v348@4ax.com...
> On Sat, 22 Oct 2011 16:14:12 -0400, " Tuuk" <abraaaa@cadabraaaa.ca>
> wrote:
>
>>Hi
>>I have a sauna with electric heater 7000watts. Nice area on top to put
>>some
>>rocks and I see others have suggested lava rocks. What if I put granite or
>>limestone? That is what I have there now, they haven't cracked or exploded
>>after spraying water on them. They look nice, some red, some different
>>colors. Is there any harm in using granite or limestone apposed to using
>>lava rocks? I am sure they were all the same a few million years ago,,,
>>any
>>reasons why I shouldn't use the granite or limestone rocks? Radiation?
>>Emmisions of sometype? inevidable that they will explode? nuclear meltdown
>>of some kind? I figure the temperature is around 200 or 300 degs.
>>
>>Any thoughts please and thanks?
>
> Piss off, faker.
> No thanks.
> w.
>

2584. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 20:48:25 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <rua6a7pp4kb1cukpmvhete4a9rakjmulq4@4ax.com>
Source record: 3485

On Sat, 22 Oct 2011 16:14:12 -0400, " Tuuk" <abraaaa@cadabraaaa.ca>
wrote:

>Any thoughts please and thanks?

Do some searching and reading before asking:
<http://www.google.com/#sclient=psy-ab&q=sauna+rocks>

Now, go away.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2585. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-22 21:43:51 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <qOGoq.6448$MI4.6250@newsfe10.iad>
Source record: 3486

Ok, Ok,, I will go

Wow, not a very friendly group.

But I did manage to learn a lot about the rocks this evening, I got a lot of opinions from googling, mostly of dealers with their opinion. Some had bags of granite rocks for 80 dollars, plus shipping, plus taxes.

I will still watch the group for any interesting comments from those in the know, any interesting point or opinion is appreciated.

Any fungsua people?

73s

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:rua6a7pp4kb1cukpmvhete4a9rakjmulq4@4ax.com...
> On Sat, 22 Oct 2011 16:14:12 -0400, " Tuuk" <abraaaa@cadabraaaa.ca>
> wrote:
>
>>Any thoughts please and thanks?
>
> Do some searching and reading before asking:
> <http://www.google.com/#sclient=psy-ab&q=sauna+rocks>
>
> Now, go away.
>
> --
> Jeff Liebermann jeffl@cruzio.com
> 150 Felker St #D http://www.LearnByDestroying.com
> Santa Cruz CA 95060 http://802.11junk.com
> Skype: JeffLiebermann AE6KS 831-336-2558
>

2586. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-23 01:52:21 UTC
From: Sal <sobars@aol.com>
Message-ID: <j7vruk$k52$1@dont-email.me>
Source record: 3487

" Tuuk" <abraaaa@cadabraaaa.ca> wrote in message
news:qOGoq.6448$MI4.6250@newsfe10.iad...
> Ok, Ok,, I will go
>
> Wow, not a very friendly group.

We tolerate (sort of) off-topic wandering/rambling/babbling by regular
posters.

Try going to a geology group and asking them about ham radio. Or go to a
Led Zeppelin Group and ask about Sixth-Century Bhuddist funerals.

See how that works? There needs to be some linkage.

2587. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-23 01:59:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4ea374e2$0$79798$8046368a@newsreader.iphouse.net>
Source record: 3488

Sorry some of our group were abrupt with you. That was rude.

On the other hand, you do understand that this is an ANTENNA discussion group, correct?

When you ask about things that are absolutely not on the menu don't expect nice answers unless you ask very nicely and don't have an attitude.

tom
K0TAR

On 10/22/2011 4:43 PM, Tuuk wrote:
> Ok, Ok,, I will go
>
> Wow, not a very friendly group.
>
> But I did manage to learn a lot about the rocks this evening, I got a
> lot of opinions from googling, mostly of dealers with their opinion.
> Some had bags of granite rocks for 80 dollars, plus shipping, plus taxes.

2588. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-23 04:54:27 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <5d391e9a-d4e9-43a0-8f5c-6a16ab4a6407@s14g2000vbj.googlegroups.com>
Source record: 3489

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http://fashion1298.blogspot.com

http://cricketin2011.blogspot.com

http://fashion4paki.blogspot.com

http://hollywood1233.blogspot.com

http://hotbollywoodactressesno1.blogspot.com

http://pakihealthpk.blogspot.com

http://dogbreedspk.blogspot.com

http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2589. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-23 12:52:16 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <36Uoq.11905$El.8809@newsfe19.iad>
Source record: 3490

No problem gents,,

I did look into the geology groups and none were active, active on my news server. And I have learned a lot from this group, lots of knowledge within this group, I have made all my antennas. I completely made my sauna, right from scratch. I was simply curious about the rocks, if there were any theories as to their selection or why some were selected over others. I supposed it is a matter of preferrence. Did you know that rocks age several thousand years each time you heat and cool them? In accourdance with errosion? And I also learned a lesson in feng shui as these rocks cause a situation better than viagra, as when my asian gf came into the sauna with me there last night, well, lets just say we learned a few things there. None of the rocks exploded, I intentionally coolded a couple of them instantly in a bucket of ice water then back on the stove then cooled and nothing cracked or exploded like I read somewhere. Some of them were turning colors but I might attest that to the fluid replenishments, But still a bit curious why some sauna places scream about lava rocks, and forbid granite rocks, while others sell granite rocks. I suppose about 4 million years ago they could have been the same. So any geological advice from anyone in the know is awsome. 73s

"tom" <news4792@taring.org> wrote in message
news:4ea374e2$0$79798$8046368a@newsreader.iphouse.net...
> Sorry some of our group were abrupt with you. That was rude.
>
> On the other hand, you do understand that this is an ANTENNA discussion
> group, correct?
>
> When you ask about things that are absolutely not on the menu don't expect
> nice answers unless you ask very nicely and don't have an attitude.
>
> tom
> K0TAR
>
> On 10/22/2011 4:43 PM, Tuuk wrote:
>> Ok, Ok,, I will go
>>
>> Wow, not a very friendly group.
>>
>> But I did manage to learn a lot about the rocks this evening, I got a
>> lot of opinions from googling, mostly of dealers with their opinion.
>> Some had bags of granite rocks for 80 dollars, plus shipping, plus taxes.
>

2590. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-23 19:35:09 UTC
From: Croydon
Message-ID: <tcq8a7d8ouiiopf4cc70faqmeshah7g7pu@4ax.com>
Source record: 3491

On Sat, 22 Oct 2011 18:52:21 -0700, "Sal" <sobars@aol.com> wrote:

>
>" Tuuk" <abraaaa@cadabraaaa.ca> wrote in message
>news:qOGoq.6448$MI4.6250@newsfe10.iad...
>> Ok, Ok,, I will go
>>
>> Wow, not a very friendly group.
>
>
>
>We tolerate (sort of) off-topic wandering/rambling/babbling by regular
>posters.
>
>Try going to a geology group and asking them about ham radio. Or go to a
>Led Zeppelin Group and ask about Sixth-Century Bhuddist funerals.
>
>See how that works? There needs to be some linkage.
>

Hmm, let's see, crystals are often referred to as "rocks" so maybe it's a
stretch, but ...

And granite contains quartz, a constituent of crystals.

And he/she has been polite in spite of some of the responses.

Tuuk, we aren't all ARs.

2591. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-24 14:12:29 UTC
From: Audio1 <Audio1@where.net>
Message-ID: <fnepq.799$dz5.366@newsfe13.iad>
Source record: 3492

On 10/22/2011 5:43 PM, Tuuk wrote:
> Ok, Ok,, I will go
>
> Wow, not a very friendly group.

Yes, there are many legends in their own minds on this group.

What intrigues me is why, when a post is considered 'off topic,' even labeled 'Off Topic...' the reader doesn't just move on to the next post but has to respond with some nasty, snarky, demeaning bullshit. I guess some people are just wired so they have to feel superior even though their behavior causes them to appear insecure and incompetent.

2592. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-24 14:34:57 UTC
From: dave <dave@dave.dave>
Message-ID: <5-mdnYLgiMEM6jjTnZ2dnUVZ_hSdnZ2d@earthlink.com>
Source record: 3493

On Sat, 22 Oct 2011 16:14:12 -0400, Tuuk wrote:

> Hi
> I have a sauna with electric heater 7000watts. Nice area on top to put
> some rocks and I see others have suggested lava rocks. What if I put
> granite or limestone? That is what I have there now, they haven't
> cracked or exploded after spraying water on them. They look nice, some
> red, some different colors. Is there any harm in using granite or
> limestone apposed to using lava rocks? I am sure they were all the same
> a few million years ago,,, any reasons why I shouldn't use the granite
> or limestone rocks? Radiation? Emmisions of sometype? inevidable that
> they will explode? nuclear meltdown of some kind? I figure the
> temperature is around 200 or 300 degs.
>
> Any thoughts please and thanks?

Hot rocks will crack when you pour water on them. That's why you need
igneous stuff like lava (at Barbecues Galore). Get a squirtgun.

2593. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-24 17:21:41 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j846r5$7h3$1@news.jpl.nasa.gov>
Source record: 3498

On 10/21/2011 10:00 PM, Owen Duffy wrote:
> bï¿½o-master<beorien@wanadoo.fr> wrote in
> news:4ea011cc$0$30756$ba4acef3@reader.news.orange.fr:
>
>> HI,
>>
>> I picked up two coils that could be a trap for the CWA-840 COMET
>> antenna. (They have two stickers "CL-840").
>> The manual of the CWA-840 says : 40/80m dipole.
>>
>> I found amazing that there isn't any capacitor in // of these coils...
>> These coils measure 76uH.
>
> That is a rather simplistic characterisation of the trap. If you were to
> measure its impedance over a wide range of frequency, the data would
> give a better idea of the extent of any parallel capacitance (and there
> has to be some, even if only stray capacitance. Somethimes the
> capacitance is between some metal tubes that make the end supports for
> the trap.
>

or C from the winding of the coil to the surrounding tubing.

Or the "self C" of the coil (viz Medhurst's formulae for self C of an
inductor)

There's a goodly bit of empiricism in trap design. You can use basic
physics to calculate, but there's enough non-idealness in most
construction techniques that the calculations get you to a starting
point. (e.g. you could model the transition from the antenna element to
the coil in the trap with a lot of detail, or you could just build one
and try it, then adjust)

> Note that measuring the impedance of traps is very challenging.
>
>> Could someone tell me how they works ?
>
> The trap introduces some reactance and resistance that is intended with
> appropriate conductor lengths, to give a modestly low VSWR at the
> frequencies of interest.
>
> The traditional explanation is that they are resonant at one of the
> frequencies of operation, and act like a switch, cutting off current to
> the outboard legs. Of course, current would flow in the outboard legs
> eve if you used a physical switch.

>
> That explanation is appealing, but limits your options. There are
> advantages is making the resonant frequency of a trap fall outside the
> bands of interes

Here's a (not very realistic) example of how it might work

Say you want an antenna that covers both 10m and 15m. You start with a 10 meter resonant antenna. Now hook a trap which has very high impedance at 10m on the end of it. Since it's high Z, not much current flows, so it doesn't change the 10m behavior very much. But, you also want it to work at 15m. So you figure out how long an additional element you need to put "outboard" of the trap to get the system to resonate. Typically, the trap is a parallel LC, so below resonance, it looks somewhat inductive. Since a short element looks capacitive, the added length for 15m will be shorter than it would be without the trap.

There's a whole raft of design approaches about where you put the resonance relative to the frequencies of use, and how you want the current distribution to work, and then there's all the "what's practical to make and manufacture" and "tolerance to misadjustment/weather/aging".

You can get a pretty good start with a modeling code like NEC, but eventually, you've got to go out and start fiddling in real life, because almost all traps are not precisely modeled by NEC for a variety of reasons.

>
>> In the manual of the CWA-840, each leg of the 7MHz section, is
>> 11.1meters in lenght , wich, it seems to me, that it is rather
>> longer that 1/4 wave. (10.1m).
>> Why ?
>
> See above.
>>
>> Thanks a lot for your answers
>>
>> CWA-840:
>>
>> -----[ ]-------------ooo--//--
>> 2.3m coil 11.1m balun
>
> The trap is probably self resonant below 40m... but that is just a guess
> from experience of having designed such things.
>
> Owen
>
>>
>

2594. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-24 18:46:23 UTC
From: KBa <kba@nic.fi>
Message-ID: <eoipq.1471$Ff3.435@uutiset.elisa.fi>
Source record: 3494

On 24.10.2011 17:34, dave wrote:
> On Sat, 22 Oct 2011 16:14:12 -0400, Tuuk wrote:
>
>> Hi
>> I have a sauna with electric heater 7000watts. Nice area on top to put
>> some rocks and I see others have suggested lava rocks. What if I put
>> granite or limestone? That is what I have there now, they haven't
>> cracked or exploded after spraying water on them. They look nice, some
>> red, some different colors. Is there any harm in using granite or
>> limestone apposed to using lava rocks? I am sure they were all the same
>> a few million years ago,,, any reasons why I shouldn't use the granite
>> or limestone rocks? Radiation? Emmisions of sometype? inevidable that
>> they will explode? nuclear meltdown of some kind? I figure the
>> temperature is around 200 or 300 degs.
>>
>> Any thoughts please and thanks?
>
> Hot rocks will crack when you pour water on them. That's why you need
> igneous stuff like lava (at Barbecues Galore). Get a squirtgun.

Well, some sauna specialists prefer non-porous rocks to others, I am not
sure if the translation "soapstone" is known or correct, but it's dense,
not porous as limestone and has good thermal storing property.
Granite probably don't break easily as it's hard and solid, but
thermal storing properties are not the best.
The one popular stone used is the olivine, there could be several
variants of it.
Don't know the availability of "soapstone" in your area or the price of
it in your quantities but it could be one choice to try, at least on top
layer of stove.

br KB

2595. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-24 19:17:33 UTC
From: dplatt@radagast.org
Message-ID: <d7qgn8-46n.ln1@radagast.org>
Source record: 3495

>I have a sauna with electric heater 7000watts. Nice area on top to put some
>rocks and I see others have suggested lava rocks. What if I put granite or
>limestone? That is what I have there now, they haven't cracked or exploded
>after spraying water on them. They look nice, some red, some different
>colors. Is there any harm in using granite or limestone apposed to using
>lava rocks? I am sure they were all the same a few million years ago,,, any
>reasons why I shouldn't use the granite or limestone rocks? Radiation?
>Emmisions of sometype? inevidable that they will explode?

Not inevitable, but entirely possible, and with potentially bad
consequences (e.g. "flying hot rock fragment puts out somebody's eye").

Granite *may* be safe enough, as it's a metamorphic rock which has
been heated to high temperatures at least twice in its lifetime.
Depends on whether that particular granite has cracks in it (some
does), how much moisture or water it has been exposed to, etc.

I would avoid limestone, as this is a sedementary rock which is
deposited from water and has quite a bit of water bound up in its
structure.

It's really a question of "How lucky do you feel?"

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2596. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-24 21:18:46 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j84knmln1@news.jpl.nasa.gov>
Source record: 3499

On 10/24/2011 12:17 PM, Dave Platt wrote:
>> I have a sauna with electric heater 7000watts. Nice area on top to put some
>> rocks and I see others have suggested lava rocks. What if I put granite or
>> limestone? That is what I have there now, they haven't cracked or exploded
>> after spraying water on them. They look nice, some red, some different
>> colors. Is there any harm in using granite or limestone apposed to using
>> lava rocks? I am sure they were all the same a few million years ago,,, any
>> reasons why I shouldn't use the granite or limestone rocks? Radiation?
>> Emmisions of sometype? inevidable that they will explode?
>
> Not inevitable, but entirely possible, and with potentially bad
> consequences (e.g. "flying hot rock fragment puts out somebody's eye").
>
> Granite *may* be safe enough, as it's a metamorphic rock which has
> been heated to high temperatures at least twice in its lifetime.
> Depends on whether that particular granite has cracks in it (some
> does), how much moisture or water it has been exposed to, etc.

granite is igneous. gneiss is metamorphic from granite.

The hazard is, as you point out, voids full of water that superheat, and
then flash to steam. Sort of like the spalling from lightning current
flowing through corroded bolts in concrete.

So it depends more on the structure of the rock than precisely whether
it's igneous, sedimentary, or metamorphic.

>
> I would avoid limestone, as this is a sedementary rock which is
> deposited from water and has quite a bit of water bound up in its
> structure.
>
> It's really a question of "How lucky do you feel?"
>

2597. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-25 12:43:28 UTC
From: dave <dave@dave.dave>
Message-ID: <TdednU57OdptMzvTnZ2dnUVZ_uednZ2d@earthlink.com>
Source record: 3496

On Mon, 24 Oct 2011 18:52:11 -0700, D. Stussy wrote:

> "Audio1" <Audio1@where.net> wrote in message
> news:fnepq.799$dz5.366@newsfe13.iad...
>> On 10/22/2011 5:43 PM, Tuuk wrote:
>> > Ok, Ok,, I will go
>> >
>> > Wow, not a very friendly group.
>>
>> Yes, there are many legends in their own minds on this group.
>>
>> What intrigues me is why, when a post is considered 'off topic,' even
>> labeled 'Off Topic...' the reader doesn't just move on to the next post
>> but has to respond with some nasty, snarky, demeaning bullshit. I guess
>> some people are just wired so they have to feel superior even though
>> their behavior causes them to appear insecure and incompetent.
>
> ...Because this is Usenet and trolls deserve to be chastized. The rra
> groups are especially good at such a function.
>
> If the poster knows it's off topic and not of interest to the group, he
> should be posting elsewhere.

I am always honored when someone values my opinion.

2598. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-25 15:51:34 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <FWApq.94$Ra6.72@newsfe07.iad>
Source record: 3497

Thanks all, great tips.

Still trying to figure out somethings on this sauna, it is one of those home made from scratch things.

I appreciate all advice. Excellent group, lots of knowledge here, I have benefitted from your advice in the past,,, and I will in the future.

Thanks again and 73s

Best regards

" Tuuk" <abraaaa@cadabraaaa.ca> wrote in message
news:36Uoq.11905$El.8809@newsfe19.iad...
> No problem gents,,
>
> I did look into the geology groups and none were active, active on my news
> server. And I have learned a lot from this group, lots of knowledge within
> this group, I have made all my antennas. I completely made my sauna, right
> from scratch. I was simply curious about the rocks, if there were any
> theories as to their selection or why some were selected over others. I
> supposed it is a matter of preferrence. Did you know that rocks age
> several thousand years each time you heat and cool them? In accourdance
> with errosion? And I also learned a lesson in feng shui as these rocks
> cause a situation better than viagra, as when my asian gf came into the
> sauna with me there last night, well, lets just say we learned a few
> things there. None of the rocks exploded, I intentionally coolded a couple
> of them instantly in a bucket of ice water then back on the stove then
> cooled and nothing cracked or exploded like I read somewhere. Some of them
> were turning colors but I might attest that to the fluid replenishments,
> But still a bit curious why some sauna places scream about lava rocks, and
> forbid granite rocks, while others sell granite rocks. I suppose about 4
> million years ago they could have been the same. So any geological advice
> from anyone in the know is awsome. 73s
>
>
>
>
>
> "tom" <news4792@taring.org> wrote in message
> news:4ea374e2$0$79798$8046368a@newsreader.iphouse.net...
>> Sorry some of our group were abrupt with you. That was rude.
>>
>> On the other hand, you do understand that this is an ANTENNA discussion
>> group, correct?
>>

>> When you ask about things that are absolutely not on the menu don't
>> expect nice answers unless you ask very nicely and don't have an
>> attitude.
>>
>> tom
>> K0TAR
>>
>> On 10/22/2011 4:43 PM, Tuuk wrote:
>>> Ok, Ok,, I will go
>>>
>>> Wow, not a very friendly group.
>>>
>>> But I did manage to learn a lot about the rocks this evening, I got a
>>> lot of opinions from googling, mostly of dealers with their opinion.
>>> Some had bags of granite rocks for 80 dollars, plus shipping, plus
>>> taxes.
>>
>
>

2599. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-26 07:26:12 UTC
From: Ian Wade G3NRW <g3nrw-radio@ntlworld.com>
Message-ID: <NtL$fDDUY7pOFw5x@ntlworld.com>
Source record: 3500

___Original Message_____________________________________
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Date: Mon, 24 Oct 2011 Time: 10:21:41
>
>Say you want an antenna that covers both 10m and 15m. You start with a
>10 meter resonant antenna. Now hook a trap which has very high
>impedance at 10m on the end of it. Since it's high Z, not much current
>flows, so it doesn't change the 10m behavior very much. But, you also
>want it to work at 15m. So you figure out how long an additional
>element you need to put "outboard" of the trap to get the system to
>resonate. Typically, the trap is a parallel LC, so below resonance, it
>looks somewhat inductive. Since a short element looks capacitive, the
>added length for 15m will be shorter than it would be without the trap.
>
>
>There's a whole raft of design approaches

Hi bï¿½o-master

Here is a simple trap antenna design tool that I have successfully used
a few times:

<http://www.k7mem.150m.com/Electronic_Notebook/antennas/shortant.html>

--
73
Ian, G3NRW

The AIM4170 Antenna Analyzer:
http://homepage.ntlworld.com/wadei/aim4170.htm

2600. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-26 07:37:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F8ABD6D3A339nonenowhere@88.198.244.100>
Source record: 3401

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in news:j846r5$7h3$1
@news.jpl.nasa.gov:

> There's a goodly bit of empiricism in trap design.

And a goodly bit of misinformation in some of the traditional ham sources.

I have had an interest in the so called coax traps, and just in the last week or so, make some headway with some good measurments of the underlying inductor formed by the coil of coax shield. There were some surprises. For those interested, see http://www.vk1od.net/antenna/coaxtrap/index.htm .

Short of performing Medhurst style measurements on a range of inductors, there is no way to be sure that the effects observe apply generally, or what a more general model might be.

Owen

2601. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-26 08:14:28 UTC
From: béo-master <beorien@wanadoo.fr>
Message-ID: <4ea7c143$0$18782$ba4acef3@reader.news.orange.fr>
Source record: 3402

very interesting
thanks a lot

2602. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-26 14:38:44 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <066c0275-ce8a-48e8-a139-fc04903deb04@i15g2000yqm.googlegroups.com>
Source record: 3403

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http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2603. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-27 02:51:49 UTC
From: Sal <sobars@aol.com>
Message-ID: <j8agtn$gj9$1@dont-email.me>
Source record: 3404

"Ian Wade G3NRW" <g3nrw-radio@ntlworld.com> wrote in message
news:NtL$fDDUY7pOFw5x@ntlworld.com...

> 73
> Ian, G3NRW
>
> The AIM4170 Antenna Analyzer:
> http://homepage.ntlworld.com/wadei/aim4170.htm

Say, after following the link, above, I just took a look at that AIM4170 web site and it looks like it's more trouble to get it up and running than most things. A lot of the steps are left to the imagination ... or they assume a whole lot about what potential buyers already know.

Anybody want to toss me a bone in the form of reassurance that it's easier than it looks? Cables, adapters,serial-to-USB (a known PITA), etc.

Thanks in advance,
"Sal"

2604. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-27 13:09:13 UTC
From: Ian Wade G3NRW <g3nrw-radio@ntlworld.com>
Message-ID: <URT5Q5K5fVqOFwh2@ntlworld.com>
Source record: 3405

___Original Message_____________________________________
From: Sal <sobars@aol.com>
Date: Wed, 26 Oct 2011 Time: 19:51:49

>> http://homepage.ntlworld.com/wadei/aim4170.htm
>
>Say, after following the link, above, I just took a look at that AIM4170 web
>site and it looks like it's more trouble to get it up and running than most
>things.

Sal

I assume you are talking about the AIM Forum, here:

http://aim4150.proboards.com/index.cgi?board=analyzer

Yes, there are many questions about AIM4170 operation there, but look
closely at the dates of the messages. Most of them are now very old. The
software has settled down very nicely now, and the instrument is indeed
very easy to set up and use.

To find out all the information you need, download the latest version of
the software (currently in AIM_846.zip), from here:

http://www.w5big.com/prog_update.htm

The download contains the AIM software (which you can run in demo mode
without the AIM hardware), plus the manual.

--
73
Ian, G3NRW

The AIM4170 Antenna Analyzer:
http://homepage.ntlworld.com/wadei/aim4170.htm

2605. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-27 17:07:36 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j8c34o$80u$1@news.jpl.nasa.gov>
Source record: 3406

On 10/26/2011 12:37 AM, Owen Duffy wrote:
> Jim Lux<james.p.lux@jpl.nasa.gov> wrote in news:j846r5$7h3$1
> @news.jpl.nasa.gov:
>
>> There's a goodly bit of empiricism in trap design.
>
> And a goodly bit of misinformation in some of the traditional ham sources.
>
> I have had an interest in the so called coax traps, and just in the last
> week or so, make some headway with some good measurments of the underlying
> inductor formed by the coil of coax shield. There were some surprises. For
> those interested, see http://www.vk1od.net/antenna/coaxtrap/index.htm .
>
> Short of performing Medhurst style measurements on a range of inductors,
> there is no way to be sure that the effects observe apply generally, or
> what a more general model might be.
>

There is a fair amount of literature on L and C (and loss) for shielded inductors, which is what a lot of traps look like.. the ones which use the C to the surrounding tube, anyway, like in the 4,5,6-BTV. Some papers have generic cookbook-ey design equations which might be useful (although I don't have any citations off the top of my head).

For a bare coil of the appropriate L/D ratio, Medhurst will get you in the right starting place.

The problem would be things like manufacturing variability, if you're copying (or writing instructions) one-off design. Stuff like 'how thick is the enamel/polyurethane/PVC insulation'.

Sort of like the measurements of Z and loss for zipcord. The dielectric properties aren't controlled in manufacturing, so what you measure on brand X, 16 Feb 2001 may have little or no relation to what you measure on brand X, 20 Oct 2010 vintage.

2606. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-27 18:52:34 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <1a23e636-7d25-4680-b9fc-30ece476388d@l19g2000yqc.googlegroups.com>
Source record: 3407

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http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

2607. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-27 19:52:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F8C45FDEDC8Fnonenowhere@88.198.244.100>
Source record: 3408

"Sal" <sobars@aol.com> wrote in news:j8agtn$gj9$1@dont-email.me:

...
>
> Say, after following the link, above, I just took a look at that
> AIM4170 web site and it looks like it's more trouble to get it up and
> running than most things. A lot of the steps are left to the
> imagination ... or they assume a whole lot about what potential buyers
> already know.

Sal, I bought an AimUHF, and it worked fine out of the box.

I suspect that the problem that most hams encounter with analysers and VNAs is that the knowledge of basic complex numbers, AC circuit theory, transmission lines, and antenna systems does not 'come in the box'.

If acquiring such a thing is the stimulus for expanding knowledge on those topics using the box as a learning aid, that is great. But to many, they are safer to just treat it as a VSWR measuring device.

I am staggered by the popular advice offered to newbies who ask 'why is my VSWR high' on eHam and QRZ to borrow an analyser. The advice appears to offered mainly by people who don't understand the instruments, and possibly have never used them effectively.

A classic example is the advice to connect the instrument at the shack end and tune for resonance, for as everyone knows, "an antenna just ain't gonna work any good unless it is resonate (sic)".

The getting of knowledge just isn't a priority in a world of instant gratification.

Owen

2608. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-27 20:04:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F8C47E6A33E4nonenowhere@88.198.244.100>
Source record: 3409

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:j8c34o$80u$1@news.jpl.nasa.gov:

> On 10/26/2011 12:37 AM, Owen Duffy wrote:
>> Jim Lux<james.p.lux@jpl.nasa.gov> wrote in news:j846r5$7h3$1
>> @news.jpl.nasa.gov:
>>
>>> There's a goodly bit of empiricism in trap design.
>>
>> And a goodly bit of misinformation in some of the traditional ham
>> sources.
>>
>> I have had an interest in the so called coax traps, and just in the
>> last week or so, make some headway with some good measurments of the
>> underlying inductor formed by the coil of coax shield. There were
>> some surprises. For those interested, see
>> http://www.vk1od.net/antenna/coaxtrap/index.htm .
>>
>> Short of performing Medhurst style measurements on a range of
>> inductors, there is no way to be sure that the effects observe apply
>> generally, or what a more general model might be.
>>
>
> There is a fair amount of literature on L and C (and loss) for
> shielded inductors, which is what a lot of traps look like.. the ones
> which use the C to the surrounding tube, anyway, like in the
> 4,5,6-BTV. Some papers have generic cookbook-ey design equations
> which might be useful (although I don't have any citations off the top
> of my head).
>
> For a bare coil of the appropriate L/D ratio, Medhurst will get you in
> the right starting place.
>
> The problem would be things like manufacturing variability, if you're
> copying (or writing instructions) one-off design. Stuff like 'how
> thick is the enamel/polyurethane/PVC insulation'.
>
> Sort of like the measurements of Z and loss for zipcord. The
> dielectric properties aren't controlled in manufacturing, so what you
> measure on brand X, 16 Feb 2001 may have little or no relation to what
> you measure on brand X, 20 Oct 2010 vintage.

All noted.

Many readers will recall my interest over more than a decade in predicting the effective RF resistance of the outside surface of a braided coax shield, especially when it forms a solenoid... as in the coax traps.

The last round of measurements by VK2KRB were most interesting, because they strongly suggested that Q was not proportional to root of f as Medhurst and predecessors observed for round copper wire (and of course, R was higher than for an equivalent sized round copper conductor).

Jim, interesting that you mention ZIP cord. I have seen a number of articles recently discussing the TL characteristics of ZIP cord, and again many readers will recall Jack Smith's measurements published here about 10 years ago.

I recently put a new TL calculator up, it uses input parameters of Ro, vf, k1, k2 to solve problems similarly to the older TLLC. It is at http://www.vk1od.net/calc/tl/atllc.htm . I wrote an article with some examples of using it at http://www.vk1od.net/calc/tl/atllcEx.htm . Example 2 plots Jack's data on ZIP attenuation from back then. A stunning set of measurements, and statistically tighter than I have seen from any one else. Nevertheless, I see a wavelike shape to the error between actual and the model, a growing sinusoid that prompts the question of why, was it some common mode effect and radiation.

Owen

2609. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-28 10:06:29 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <663b66e1-e8ef-4c45-9164-aa0b479a2121@s11g2000yqi.googlegroups.com>
Source record: 3410

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http://super1213.blogspot.com

http://fashion1299.blogspot.com

http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

http://www.triond.com/rw/590495

2610. Re: Trap antenna - and AIM4170

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-28 15:29:28 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <doSdnWK2ed7KVzfTnZ2dnUVZ_gWdnZ2d@bright.net>
Source record: 3411

Dear Group: An echo: the AIM4170 is the greatest thing since sliced bread (or NEC) for serious antenna people. I use one with an inexpensive- very small, slow, lap-top to great effect.

The device is also ideal for measuring real components. The ability, if you buy a small set of high quality resistors, to calibrate out the effects of fixtures is a delight to use. I have a GR bridge. It has long been the standard. But my goodness is its use a lot of work.

Note that the device can tell the sign of the phase and I have found that it works well in the presence of strong signals. Indeed, one feature is that the device may be asked to scan a band of frequencies and display the stronger signals found. It is also very easy to calibrate the internal frequency reference to WWV. All of this with only one moving part - the on/off switch.

73, Mac N8TT

"Owen Duffy" wrote in message
news:Xns9F8C45FDEDC8Fnonenowhere@88.198.244.100...

"Sal" <sobars@aol.com> wrote in news:j8agtn$gj9$1@dont-email.me:

...
>
> Say, after following the link, above, I just took a look at that
> AIM4170 web site and it looks like it's more trouble to get it up and
> running than most things. A lot of the steps are left to the
> imagination ... or they assume a whole lot about what potential buyers
> already know.

Sal, I bought an AimUHF, and it worked fine out of the box.

I suspect that the problem that most hams encounter with analysers and VNAs is that the knowledge of basic complex numbers, AC circuit theory, transmission lines, and antenna systems does not 'come in the box'.

If acquiring such a thing is the stimulus for expanding knowledge on those topics using the box as a learning aid, that is great. But to many, they are safer to just treat it as a VSWR measuring device.

I am staggered by the popular advice offered to newbies who ask 'why is my VSWR high' on eHam and QRZ to borrow an analyser. The advice appears to offered mainly by people who don't understand the instruments, and possibly have never used them effectively.

A classic example is the advice to connect the instrument at the shack end and tune for resonance, for as everyone knows, "an antenna just

ain't gonna work any good unless it is resonate (sic)".

The getting of knowledge just isn't a priority in a world of instant gratification.

Owen

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

2611. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-29 01:51:13 UTC
From: Sal <sobars@aol.com>
Message-ID: <j8fm48lvg1@dont-email.me>
Source record: 3412

"Ian Wade G3NRW" <g3nrw-radio@ntlworld.com> wrote in message
news:URT5Q5K5fVqOFwh2@ntlworld.com...
>
> I assume you are talking about the AIM Forum, here:
>
> http://aim4150.proboards.com/index.cgi?board=analyzer
>
> Yes, there are many questions about AIM4170 operation there, but look
> closely at the dates of the messages. Most of them are now very old. The
> software has settled down very nicely now, and the instrument is indeed
> very easy to set up and use.
>
> To find out all the information you need, download the latest version of
> the software (currently in AIM_846.zip), from here:
>
> http://www.w5big.com/prog_update.htm
>
> The download contains the AIM software (which you can run in demo mode
> without the AIM hardware), plus the manual.

>
> The AIM4170 Antenna Analyzer:
> http://homepage.ntlworld.com/wadei/aim4170.htm

Thanks, Ian,

I did look at the forum briefly, but my reference was to this page
http://www.arraysolutions.com/Products/AIM4170.htm and one
or two links out. There were fleeting references to several operating
systems versions, as well as talk about USB-to-COM-port adaptation,
which scares me. (Never tried it; numerous horror stories are extant.)

I gleaned no real knowledge as to what I needed to buy to make it
work with both my WinXP box in the shack or my WinVista laptop.

I'll grab the software, load it and take it for a drive. It's not that I'm
some
Chicken-S kid who needs a lot of hand holding. (I have seven computers,
running everything from DOS 5.0 to Vista, with Mac OS 10.5 and Ubuntu
Linux thrown in.) I just don't want to spend $700+ for a leap into the
abyss.

Thanks for the advice.

"Sal"
(KD6VKW)

2612. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-29 02:05:12 UTC
From: Sal <sobars@aol.com>
Message-ID: <j8fmuf$pn9$1@dont-email.me>
Source record: 3413

"Owen Duffy" <none@no.where> wrote in message
news:Xns9F8C45FDEDC8Fnonenowhere@88.198.244.100...
> "Sal" <sobars@aol.com> wrote in news:j8agtn$gj9$1@dont-email.me:
>
> ...
>>
>> Say, after following the link, above, I just took a look at that
>> AIM4170 web site and it looks like it's more trouble to get it up and
>> running than most things. A lot of the steps are left to the
>> imagination ... or they assume a whole lot about what potential buyers
>> already know.
>
> Sal, I bought an AimUHF, and it worked fine out of the box.
>
> I suspect that the problem that most hams encounter with analysers and
> VNAs is that the knowledge of basic complex numbers, AC circuit theory,
> transmission lines, and antenna systems does not 'come in the box'.
>
> If acquiring such a thing is the stimulus for expanding knowledge on
> those topics using the box as a learning aid, that is great. But to
> many, they are safer to just treat it as a VSWR measuring device.
>
> I am staggered by the popular advice offered to newbies who ask 'why is
> my VSWR high' on eHam and QRZ to borrow an analyser. The advice appears
> to offered mainly by people who don't understand the instruments, and
> possibly have never used them effectively.
>
> A classic example is the advice to connect the instrument at the shack
> end and tune for resonance, for as everyone knows, "an antenna just
> ain't gonna work any good unless it is resonate (sic)".
>
> The getting of knowledge just isn't a priority in a world of instant
> gratification.
>
> Owen

Thanks, Owen,

I understand the world of complex numbers and vector impedance
well enough. My concern is whether I can make the thing work with
what appeared to me to be a dearth of hookup instructions.

How did you know what cable(s) to order? Are you operating with
a software COM port or do/does your computer(s) come with a
hardware COM port?

Anecdote:
Right after Field Day, for which I am the club Chairman, I followed a fellow club member's suggestion to try to get a network logging program running in preparation for next year. No dice. Hours wasted.

I followed many conflicting or wrong instructions; the best I managed was to get the two computers to each acknowledge the existence of the other -- but no more. No sharing of information and darn little help from the maker of the software, who assumes we are are all networking engineers.

Moral:
So, with the bitter taste of failure still fresh, I'm not really ashamed to act shy around this next (possible) installation.

As I told Ian, I'll try the software and see if it radiates warmth. It needn't be hot ... just not ice cold. :-|

"Sal"

2613. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-29 02:24:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F8D886B4749Enonenowhere@88.198.244.100>
Source record: 3414

"Sal" <sobars@aol.com> wrote in news:j8fmuf$pn9$1@dont-email.me:

>
...
>
> Thanks, Owen,
>
> I understand the world of complex numbers and vector impedance
> well enough. My concern is whether I can make the thing work with
> what appeared to me to be a dearth of hookup instructions.
>
> How did you know what cable(s) to order? Are you operating with
> a software COM port or do/does your computer(s) come with a
> hardware COM port?
The AIMuhf connects to the computer by USB, just a mini USB IIRC, and I
think they supplied a cable.
>
...
> As I told Ian, I'll try the software and see if it radiates warmth.
> It needn't be hot ... just not ice cold. :-|

The software is a very important element.

In my experience, the software with these kinds of things is
amateurish... but usable.

I also have a TecTec VNA, but I avoid using it if I have something else
that will do the job, and the AIMuhf is usually better if a one port VNA
is up to the task.

You will see plots from both of those in the article
http://www.vk1od.net/antenna/7MDipole/7MDipole02.htm .

There are other ham grade VNAs, I haven't researched them deeply, some
may be kits or homebrew that leave you challenged to find some of the
parts.

Owen

2614. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-29 03:49:09 UTC
From: Sal <sobars@aol.com>
Message-ID: <j8ft1c$lg7$1@dont-email.me>
Source record: 3415

"Owen Duffy" <none@no.where> wrote in message
news:Xns9F8D886B4749Enonenowhere@88.198.244.100...
> "Sal" <sobars@aol.com> wrote in news:j8fmuf$pn9$1@dont-email.me:
>
>>
> ...
>>
>> Thanks, Owen,
>>
>> I understand the world of complex numbers and vector impedance
>> well enough. My concern is whether I can make the thing work with
>> what appeared to me to be a dearth of hookup instructions.
>>
>> How did you know what cable(s) to order? Are you operating with
>> a software COM port or do/does your computer(s) come with a
>> hardware COM port?
> The AIMuhf connects to the computer by USB, just a mini USB IIRC, and I
> think they supplied a cable.
>>
> ...
>> As I told Ian, I'll try the software and see if it radiates warmth.
>> It needn't be hot ... just not ice cold. :-|
>
> The software is a very important element.
>
> In my experience, the software with these kinds of things is
> amateurish... but usable.
>
> I also have a TecTec VNA, but I avoid using it if I have something else
> that will do the job, and the AIMuhf is usually better if a one port VNA
> is up to the task.
>
> You will see plots from both of those in the article
> http://www.vk1od.net/antenna/7MDipole/7MDipole02.htm .
>
> There are other ham grade VNAs, I haven't researched them deeply, some
> may be kits or homebrew that leave you challenged to find some of the
> parts.
>
> Owen

Thank you, Owen. That web page was all very instructive.

"Sal"

2615. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-29 17:50:07 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <c0ed1d0b-3b34-455d-a28a-71637cf595b2@g1g2000vbd.googlegroups.com>
Source record: 3416

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http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

http://www.triond.com/rw/590495

2616. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-30 08:58:35 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <1de65447-5256-43bd-a483-ded854493cfc@v5g2000vbh.googlegroups.com>
Source record: 3417

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http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

http://www.triond.com/rw/590495

2617. Re: Off topic question please hams

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-30 14:13:59 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <CYcrq.7151$SW4.6627@newsfe08.iad>
Source record: 3418

Very interesting comments,,

I have had two or three visits to the sauna with high heat and nothing exploding yet or breaking down of rocks yet.

Thanks for all the great comments. Have great day and 73s

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message news:j84knmln1@news.jpl.nasa.gov...
> On 10/24/2011 12:17 PM, Dave Platt wrote:
>>> I have a sauna with electric heater 7000watts. Nice area on top to put
>>> some
>>> rocks and I see others have suggested lava rocks. What if I put granite
>>> or
>>> limestone? That is what I have there now, they haven't cracked or
>>> exploded
>>> after spraying water on them. They look nice, some red, some different
>>> colors. Is there any harm in using granite or limestone apposed to using
>>> lava rocks? I am sure they were all the same a few million years ago,,,
>>> any
>>> reasons why I shouldn't use the granite or limestone rocks? Radiation?
>>> Emmisions of sometype? inevidable that they will explode?
>>
>> Not inevitable, but entirely possible, and with potentially bad
>> consequences (e.g. "flying hot rock fragment puts out somebody's eye").
>>
>> Granite *may* be safe enough, as it's a metamorphic rock which has
>> been heated to high temperatures at least twice in its lifetime.
>> Depends on whether that particular granite has cracks in it (some
>> does), how much moisture or water it has been exposed to, etc.
>
>
> granite is igneous. gneiss is metamorphic from granite.
>
> The hazard is, as you point out, voids full of water that superheat, and
> then flash to steam. Sort of like the spalling from lightning current
> flowing through corroded bolts in concrete.
>
> So it depends more on the structure of the rock than precisely whether
> it's igneous, sedimentary, or metamorphic.
>
>
>>
>> I would avoid limestone, as this is a sedementary rock which is
>> deposited from water and has quite a bit of water bound up in its

>> structure.
>>
>> It's really a question of "How lucky do you feel?"
>>
>
>

2618. HOT VIDEOS FOR YOUTH AND WORLD SEXIEST GIRLS HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-31 04:52:03 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <01b62779-6d33-4640-8f31-f3db30571a8d@f3g2000pri.googlegroups.com>
Source record: 3419

A TO Z INFORMATION SEE IN THIS SITE

http://atwoztopic.blogspot.com/

ALL HOT PHOTOS SUPER SEXY PHOTOS

http://alltoux.blogspot.com/2010/09/hot-lip-kiss-135.html

ALL JOBS SITES FREE SEE

http://jobstwo.blogspot.com/

HOT VIDEOS

http://hotvideotoou.blogspot.com/2011/01/kiss-videos.html

hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
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http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html

2619. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-31 09:17:08 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <5ab11530-c398-46fb-9703-5c1fe7287268@4g2000yqu.googlegroups.com>
Source record: 3420

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http://goldandsilverpk.blogspot.com

http://www.triond.com/rw/590495

2620. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-31 19:15:14 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <00839051-0251-45a6-bce4-56e198ef2d58@a12g2000prb.googlegroups.com>
Source record: 3421

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http://mehndipk12.blogspot.com

http://goldandsilverpk.blogspot.com

http://www.triond.com/rw/590495

2621. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-10-31 23:41:20 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j8nbn0omg1@news.jpl.nasa.gov>
Source record: 3422

On 10/27/2011 1:04 PM, Owen Duffy wrote:
> Jim Lux<james.p.lux@jpl.nasa.gov> wrote in
> news:j8c34o$80u$1@news.jpl.nasa.gov:
>
>> On 10/26/2011 12:37 AM, Owen Duffy wrote:
>>> Jim Lux<james.p.lux@jpl.nasa.gov> wrote in news:j846r5$7h3$1
>>> @news.jpl.nasa.gov:
>>>
>>>> There's a goodly bit of empiricism in trap design.
>>>
>>> And a goodly bit of misinformation in some of the traditional ham
>>> sources.
>>>
>>> I have had an interest in the so called coax traps, and just in the
>>> last week or so, make some headway with some good measurments of the
>>> underlying inductor formed by the coil of coax shield. There were
>>> some surprises. For those interested, see
>>> http://www.vk1od.net/antenna/coaxtrap/index.htm .
>>>
>>> Short of performing Medhurst style measurements on a range of
>>> inductors, there is no way to be sure that the effects observe apply
>>> generally, or what a more general model might be.
>>>
>>
>> There is a fair amount of literature on L and C (and loss) for
>> shielded inductors, which is what a lot of traps look like.. the ones
>> which use the C to the surrounding tube, anyway, like in the
>> 4,5,6-BTV. Some papers have generic cookbook-ey design equations
>> which might be useful (although I don't have any citations off the top
>> of my head).
>>
>> For a bare coil of the appropriate L/D ratio, Medhurst will get you in
>> the right starting place.
>>
>> The problem would be things like manufacturing variability, if you're
>> copying (or writing instructions) one-off design. Stuff like 'how
>> thick is the enamel/polyurethane/PVC insulation'.
>>
>> Sort of like the measurements of Z and loss for zipcord. The
>> dielectric properties aren't controlled in manufacturing, so what you
>> measure on brand X, 16 Feb 2001 may have little or no relation to what
>> you measure on brand X, 20 Oct 2010 vintage.
>
> All noted.

>
> Many readers will recall my interest over more than a decade in
> predicting the effective RF resistance of the outside surface of a
> braided coax shield, especially when it forms a solenoid... as in the
> coax traps.
>
> The last round of measurements by VK2KRB were most interesting, because
> they strongly suggested that Q was not proportional to root of f as
> Medhurst and predecessors observed for round copper wire (and of course,
> R was higher than for an equivalent sized round copper conductor).
>
> Jim, interesting that you mention ZIP cord. I have seen a number of
> articles recently discussing the TL characteristics of ZIP cord, and
> again many readers will recall Jack Smith's measurements published here
> about 10 years ago.
>
> I recently put a new TL calculator up, it uses input parameters of Ro,
> vf, k1, k2 to solve problems similarly to the older TLLC. It is at
> http://www.vk1od.net/calc/tl/atllc.htm . I wrote an article with some
> examples of using it at http://www.vk1od.net/calc/tl/atllcEx.htm .
> Example 2 plots Jack's data on ZIP attenuation from back then. A
> stunning set of measurements, and statistically tighter than I have seen
> from any one else. Nevertheless, I see a wavelike shape to the error
> between actual and the model, a growing sinusoid that prompts the
> question of why, was it some common mode effect and radiation.
>

Interesting..
So the loss is about 0.12 dB/meter at 10 MHz, compared to, say, RG-58 at
0.04 dB/meter. That's a huge difference, especially since the center
conductor on the RG-58 is probably smaller than the zip cord (what was
the wire size? I think you cited 1.22 mm diameter? AWG 16? or AWG 18?)

2622. Re: Trap antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-01 02:35:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F908A374A029nonenowhere@88.198.244.100>
Source record: 3423

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:j8nbn0omg1@news.jpl.nasa.gov:

...
>
> Interesting..
> So the loss is about 0.12 dB/meter at 10 MHz, compared to, say, RG-58
> at 0.04 dB/meter. That's a huge difference, especially since the
> center conductor on the RG-58 is probably smaller than the zip cord
> (what was the wire size? I think you cited 1.22 mm diameter? AWG 16?
> or AWG 18?)
>

The sizes came from Jack. 1.2mm is about #16.5.

The loss model suggests that dielectric loss is significant, even at 10MHz. Yes, I think you are correct that the inner conductor of RG58 is fractionally smaller. IIRC, about 80% of copper loss in coax is in the inner conductor, so the ZIP cord is at the disadvantage of having a smaller 'other conductor' compared to the shield of the coax. There may be some further degradation due to proximity effect. (Of course, ZO favours the ZIP line.)

It seems that the copper loss is close to four times what might be expected of round copper conductor. I don't know whether the conductors were tinned, and what the effect of stranding was.

Another possible source of loss is radiation as I mentioned in the earlier posting.

I note that Belden ceased supply of its 75 ohm twin lines, though I think they used PE dielectric. Their #13 (8210) seems to have higher conductor loss than accounted for by round copper conductors with normal skin effect.

I can't help but be suspicous that proximity effect is a significant part of the reconciliation gap.

Owen

2623. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-01 06:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1320127201@panix.com>
Source record: 3424
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

2624. Re: Freeband hopping?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-02 21:30:24 UTC
From: GAVI <henri.grossman@aol.com>
Message-ID: <9c43ca98-4349-4f9a-8183-6b94b649973d@p14g2000pra.googlegroups.com>
Source record: 3425
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,comp.os.os2.advocacy

On Oct 27, 1:58 am, Gav.Mor...@usa.com wrote:
> On Sep 25, 9:31 pm, "markie" <kb9...@kb9rqz.com> wrote:> You know what, I feel like a fool. One of the members of the household here
> > unscrewed the coax days ago and I didn't realize it. No wonder I haven't
> > been hearing anything. Please accept my apology. Jason
>
> > "Scott in Baltimore" <KB9...@yahoo.com> wrote in messagenews:j5olkk$e8q$1@dont-email.me...
>
> > > Jason wrote:
> > >> You're full of horse sh*t. There hasn't been any DX for days. I think
> > >> you must have dreamed this.
>
> > > It's no dream. Turn on your radio. Channel 19 was S9+ like it is
> > > whenever the skip is running. The A index doesn't affect 10/11
> > > as bad as it does the lower frequencies. Just look for lots of
> > > 'spots and the solar flux to be up in the 100's. I also made a
> > > contact on the 12th to Chile. I'm not dreaming dood!
>
> > > The A index is basically yesterdays K index. The K index is a prediction
> > > of the solar perturbations for the day.
>
> > >http://dx.qsl.net/propagation/propagation.html
>
> > > Right now the solar flux is 169 and the K index is 2. I'm going out for
> > > more!
>
> > >> "Scott in Baltimore" <scott_unit...@yahoo.com> wrote in message
> > >>news:j5oiqn$5mn$1@dont-email.me...
> > >>> 10 meters sure was.
>
> > >>> I've did Italy, Germany, Australia, Puerto Rico and a few in Brazil in
> > >>> about half an hour.
>
> > >>> If you want to schedule a contact on 10 meters or Echolink, email me
> > >>> your call sign.
> > >>> Sorry, I won't do freeband anymore or initiate DX on 11, however, if I'm
> > >>> talking local,
> > >>> I won't be rude and ignore you on 11 meters if I hear you.- Hide quoted text -
>
> Toilet Training Introduction
> By Puddles Portalet
> ----------

> Here I am tied down in a box. I am in my master's buddy's house. In
> the basement. My hands are duct taped to my cock. My balls are
> stretched and hooked up to a sack of sharp needles connected to a wire
> that leads outside of the box. My master's buddy already pulled on it
> to let me know how painful those needles are.
>
> I am strapped down to the bottom of the box by leather straps. all I
> can move is my hands and my jaw. My forehead is even strapped down to
> the box. My head is covered by a plastic cone opening to the top of
> the box. A small piece of tube is hanging over to the side of my
> mouth. My master told me I was going to serve my masters buddy for the
> weekend, and that I was to make him proud, or else.
>
> My stomach rumbles uncomfortably. I have not been allowed to eat since
> breakfast yesterday. I was given a thorough high-colonic before I was
> made to lie down in the box. I was filled and emptied three times to
> be sure I was empty from end to end. I am starving and quite nervous.
> Master has never lent me out to anyone before. Master's buddy was
> quite brutal. Grunting commands at me to make me move or position
> myself as he wanted. Despite it all, I was hard.
>
> Soon, I begin to hear voices. Distant, like upstairs. Foot falls of
> booted men. Master's buddy's slave scurrying in chains across the
> floors. I could smell food. My stomach cried out. It quieted while
> they ate. Mumbled conversation. Then I could hear them finishing at
> last. The sounds of chairs and foot falls again.
>
> The basement door opened up. I could here many men filing down into
> this basement play room. A light went on and I could see an oval
> shaped light around my head. A panel closed over my face. "Is that the
> surprise, you told us about, Jack?" I heard one man say.
>
> "Yeah, that's our highlight for the weekend, guys."
>
> I could hear "Jack's" slave being strung up for punishment. Whips in
> the air and the gasps and moans as they where flogged for errors in
> serving the meal. It sounded like they where taking turns on each of
> his two boys. Then I heard someone ask, "Does this work?"
>
> "Yeah, try it out. It shouldn't spoil anything."
>
> I could here the guy next to my box undo his fly and sigh. Then piss
> splashing in a urinal. A second later the tube next to my mouth
> twitched and started flooding my face with hot piss! I opened my mouth
> and swallow the acrid urine. Master had trained me to be grateful to
> accept this gift from a master. I could lift my lips to the tube and
> drain the last of the piss coming from the urinal.
>
> The whipping stopped and the boys let down. Then I could hear the
> master of the house approach my box. The lid above me was lifted and

> light flooded in. I could see that it was a toilet seat above my face.
> I looked to the tube and back up. "Oh, No!" I cried.
>
> "Shut up, scum!" He spat onto my face. "You know better than to
> speak." He looked back at the crowd. Faces peered over the lip to see
> if I was really in here. "gentlemen, you will indulge me to go first.
> Please feel free to use my other slaves as you please. Then avail
> yourself of this unique toy as it becomes available."
>
> He looked down at me. "Hungry, Boy?" he grinned, knowing I was
> starving. "Well, look out! It's dinner time for the scum hole!"
>
> With that he unbuckled his chaps and pants. I struggled looking for a
> way to avoid this. I could drink piss. But... this?
>
> His ass lowered slowly to the seat. His cheeks spread apart by the
> rim. His cock rested in a scoop at the front. Over my eyes. It seemed
> to lead to a bottle. The box became a little darker again as his body
> covered the hole. His stinking hole was a few inches away from my
> lips. He moved forward a little and I felt my head being jack up to
> his butthole. "Put you lips up to my shitter and kiss it in gratitude
> for the meal your going to get from it." Not wanting to disappoint my
> master, I did as I was told. His hole was a little puckered and was
> moist a little. It stank like shit already. Like he hadn't wiped last
> time. I kissed his hole and pulled my lips back. "No boy, give that
> hole some loving. Slip it some tongue."
>
> I put my lips to his shitty hole again and stuck out my tongue. Which
> sank into his opening hole. It tasted bitter and rank. Like rimming
> someone who hadn't cleaned. Something master liked doing a lot lately.
> Now I understood why. "Good. Now lick my hole clean. Boy. I want your
> dinner spot to be tidy."
>
> I tongued his hole. It tasted awful. I gagged a little and he pushed
> down some more. His hole opened and there was more to clean. I pulled
> back to take a breath and he farted. It smelled like ripe shit.
> Powerful. I put my lips to his hole again and stuck my tongue into his
> shitter. My tongue sank into hot, wet, soft, shit. I quickly pulled
> back and he moaned and my mouth was filled, cheeks full, with his
> steaming shit load. He laughed and looked between his legs to my eyes.
> "Chew on my hot shit, fucker. You are just my fucking toilet. Swallow
> my turd pile, scum."
>
> My eyes watered with tears as I chewed and tried to swallow his shit.
> He looked mean at me. Like I had better not throw it up. Finally. I
> managed to gag his load down. Shit hung, wet, off his hole. I licked
> it up and his hole opened again. This time it was firmer and it came
> out in a steady loop of turd. I swallow quickly trying get it out of
> my mouth at least. I gagged a few times and my mouth filled up with my
> cheeks puffed out with his shit. Finally, the shit stopped. I chewed

> while he lifted up to watch. When I was done he made me lick his ass
> clean again. He stood up to cheers from the other men. "Remember, to
> flush the toilet, when you are through, guys." With that he released
> the piss in the bottle his cock hung into onto my face, I gulped up as
> much as I could to wash the taste of the shit that coated my hole
> inside of my mouth.
>
> I discovered that there where twelve men at this party. because each
> one of them came to use the human toilet over the evening. I drank
> many many loads of piss out of the urinal, glad for the chance to
> rinse my mouth of their shit. I ate hard shit from a lean muscular
> butt. I endured diarrhea runny shit from a large man. Some had bits of
> food in it like corn, and peas. One guy got off on having my tell him
> how great I loved his shit in my mouth. While juggling a larger chunk
> of his turd in my mouth.
>
> When the playing seemed done. Everyone got quiet. The whole top to the
> box was undone. I was unstrapped and lifted up my a few of the men. My
> stomach was bloated with all of their shit. My face was smeared and
> stained with their stinking mess. I was led over to a plastic playmat
> in the center of the room. Then the man who was my master's buddy
> announced that he did this to prove to his slaves that they should eat
> his shit as part of their service to him. They had agreed to begin
> that service on their new contracts, if he could show that other
> slaves eat shit in service of their masters.
>
> The two boys looked angry with me. The master unlocked them and
> unchained them and led them to the mat. "My slaves may now exact their
> revenge on our toilet, who has brought them into my toilet service."
>
> The two boys came to me and tackled my down. I was too weak to fight
> them anyway. They pinned me down and one sat on my chest. His knees
> around my head. He started to piss in the air landing it on my mouth.
> The other kicked my nuts, and my mouth opened to swallow his slave
> piss. The other one came around when the first stopped pissing. He sat
> facing his counterpart and placed his hole on my mouth. His shit slid
> out and he screamed at me to eat his fuckin shit load. The other
> chimed in with him is their derision of me. I swallowed the slaves
> shit dutifully. It tasted of dog kibble a little. Like the kibble I
> eat. I guess they are on the same diet. The first one finished and got
> his ass licked clean. Then he wanted to fuck me. He got behind and
> thrust in. The one on my chest moved off and dumped a load of shit on
> the playmat. A good size pile of soft, firm boy shit. He had me lick
> him clean too. Then he flipped me over with his friends dick still up
> my ass. Then he shoved my face into his pile of shit while the other
> continued fucking me. He forced me to lick the mat clean of his shit.
> Then he jerked off on my shit caked face and made me wipe it off and
> into my face. I was humiliated worse than anything I had ever
> imagined. But, as I swallowed the slaved cum and shit. I came too.
>

> I just know that master and I will have a different relationship when
> I am returned.
>
> FIN

INDEED !

2625. Re: Freeband hopping?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-03 11:23:53 UTC
From: "tholen@antispam.ham" <tholen@ifa.hawaii.edu>
Message-ID: <d1aaf0c1-f669-45c3-be4b-54c5be7f612a@f3g2000pri.googlegroups.com>
Source record: 3426
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,comp.os.os2.advocacy

GAVI <henri.grossman@aol.com> writes:

11> Newsgroups:
rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,comp.os.os2.advocacy

11> INDEED !

What does your concurrence have to do with rec.radio.amateur.antenna,
alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,
comp.os.os2.advocacy, GAVI?

2626. get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-03 23:22:15 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <f4a8a9eb-8918-4e00-ae82-35794eca498e@a12g2000vbz.googlegroups.com>
Source record: 3427
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,comp.os.os2.advocacy

On Nov 2, 5:30 pm, GAVI <henri.gross...@aol.com> wrote:
> On Oct 27, 1:58 am, Gav.Mor...@usa.com wrote:
>

2627. Re: get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-03 23:50:16 UTC
From: % <persent@gmail.com>
Message-ID: <5l6dneblo4Vwuy7TnZ2dnUVZ_g6dnZ2d@giganews.com>
Source record: 3428
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,comp.os.os2.advocacy

kb9rqz wrote:
> On Nov 2, 5:30 pm, GAVI <henri.gross...@aol.com> wrote:
>> On Oct 27, 1:58 am, Gav.Mor...@usa.com wrote:

2628. Is a copper wire UHF antenna affected by oxidation?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-04 15:43:08 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9116hhme1@dont-email.me>
Source record: 3429

Suppose my square loop antenna oxidizes. Does that affect its
characteristics?

Thanks,
John KD5YI

2629. Re: Is a copper wire UHF antenna affected by oxidation?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-04 18:17:24 UTC
From: dplatt@radagast.org
Message-ID: <kqmdo8-v3f.ln1@radagast.org>
Source record: 3430

In article <j9116hhme1@dont-email.me>, John S <sophi.2@invalid.org> wrote:

>Suppose my square loop antenna oxidizes. Does that affect its
>characteristics?

Yes. Its color changes :-)

Beyond that - as far as RF characteristics go - the answer is probably
"Yes, but probably not enough that you would be able to detect the
difference in practice."

What I believe would happen:

(1) As the surface oxidizes, its resistance rises. This will cause
some amount of additional signal loss, as current flows through the
resistive layer.

The actual amount of added loss will depend on the depth of the
oxidized layer, its actual resistance per square compared to
that of the underlying copper, and on the frequency (which
influences the *skin depth" of the material).

Interestingly, the greatest amount of added loss does *not*
occur when the oxide layer's resistance is at a maximum (near-
infinite), since little or no current will flow through the
oxide... it becomes "invisible", and the current will flow
through the metallic copper under the oxide. The losses are
highest when the oxide layer is (1) of moderate resistance, and
(2) fairly thick, compared to the skin depth. At this point,
most of the current will be flowing through the oxide, and
excluded from the metallic copper by the skin effect.

I don't know the actual numbers involved here (i.e. point of
greatest loss, for any given frequency). In practice I don't
think you'll come anywhere near these conditions for a copper-wire
antenna at UHF frequencies.

(2) Copper oxide is not electrically linear - it behaves somewhat
like a semiconductor (you can actually make a diode out of it).
This nonlinearity may result in the generation of some second-
and higher-order harmonics, and possibly some intermodulation
products, if a significant amount of current is flowing through
the oxide layer.

I doubt that this will be detectable.

(3) If you manage to get oxidation into your actual metal-to-metal
contacts (and not just on the surface of the metal) the problem

in (2) becomes a lot worse, since you can have *all* of your
signal power flowing through what amounts to a diode. Harmonics
and IM products can become much more of a problem.

In practice, I'd say that if you make sure that (3) is not a
problem... that is, all of your actual metal-to-metal contacts are
soldered or welded (or gooped with a conductive anti-oxidant paste
prior to assembly) you'll be OK, electrically. Surface oxidation
on the loop is unlikely to be a problem.

You could always scrub down the loop with Brasso, wash it
carefully and dry it, and then spray it with an industrial-
strength outdoor-rated UV-proof clearcoat. That would leave it
shiny and bright for quite a long time.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2630. Re: Is a copper wire UHF antenna affected by oxidation?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-04 19:11:20 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j91dct$gc7$1@dont-email.me>
Source record: 3431

On 11/4/2011 1:17 PM, Dave Platt wrote:
> In article<j9116hhme1@dont-email.me>, John S<sophi.2@invalid.org> wrote:
>
>> Suppose my square loop antenna oxidizes. Does that affect its
>> characteristics?
>
> Yes. Its color changes :-)
>
> Beyond that - as far as RF characteristics go - the answer is probably
> "Yes, but probably not enough that you would be able to detect the
> difference in practice."
>
> What I believe would happen:
>
> (1) As the surface oxidizes, its resistance rises. This will cause
> some amount of additional signal loss, as current flows through the
> resistive layer.
>
> The actual amount of added loss will depend on the depth of the
> oxidized layer, its actual resistance per square compared to
> that of the underlying copper, and on the frequency (which
> influences the *skin depth" of the material).
>
> Interestingly, the greatest amount of added loss does *not*
> occur when the oxide layer's resistance is at a maximum (near-
> infinite), since little or no current will flow through the
> oxide... it becomes "invisible", and the current will flow
> through the metallic copper under the oxide. The losses are
> highest when the oxide layer is (1) of moderate resistance, and
> (2) fairly thick, compared to the skin depth. At this point,
> most of the current will be flowing through the oxide, and
> excluded from the metallic copper by the skin effect.
>
> I don't know the actual numbers involved here (i.e. point of
> greatest loss, for any given frequency). In practice I don't
> think you'll come anywhere near these conditions for a copper-wire
> antenna at UHF frequencies.
>
> (2) Copper oxide is not electrically linear - it behaves somewhat
> like a semiconductor (you can actually make a diode out of it).
> This nonlinearity may result in the generation of some second-
> and higher-order harmonics, and possibly some intermodulation
> products, if a significant amount of current is flowing through
> the oxide layer.

>
> I doubt that this will be detectable.
>
> (3) If you manage to get oxidation into your actual metal-to-metal
> contacts (and not just on the surface of the metal) the problem
> in (2) becomes a lot worse, since you can have *all* of your
> signal power flowing through what amounts to a diode. Harmonics
> and IM products can become much more of a problem.
>
> In practice, I'd say that if you make sure that (3) is not a
> problem... that is, all of your actual metal-to-metal contacts are
> soldered or welded (or gooped with a conductive anti-oxidant paste
> prior to assembly) you'll be OK, electrically. Surface oxidation
> on the loop is unlikely to be a problem.
>
> You could always scrub down the loop with Brasso, wash it
> carefully and dry it, and then spray it with an industrial-
> strength outdoor-rated UV-proof clearcoat. That would leave it
> shiny and bright for quite a long time.
>

My prior 'Net search revealed opinions from at least two camps, so I thought I'd ask here.

Re: Color, I'll check with my decorator :-)

Re: Item (3), connections will be soldered.

I will be using #14 gauge wire as used in house wiring. I could leave the insulation on the wire, but moisture has a habit of wicking into the tiniest exposed crevice, as you are aware, and I'd rather not have to perform heroic efforts to prevent oxidation. By removing the insulation, I can at least observe the severity of oxidation and guess at whether it correlates to any observed communication problems.

Thanks for the complete and thoughtful answer, Dave. You have persuaded me to proceed without worry.

73,
John KD5YI

2631. Re: Is a copper wire UHF antenna affected by oxidation?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-05 02:25:28 UTC
From: Paul Drahn <pdrahn@webformixair.com>
Message-ID: <j926qunvt1@dont-email.me>
Source record: 3432

On 11/4/2011 12:11 PM, John S wrote:
> On 11/4/2011 1:17 PM, Dave Platt wrote:
>> In article<j9116hhme1@dont-email.me>, John S<sophi.2@invalid.org>
>> wrote:
>>
>>> Suppose my square loop antenna oxidizes. Does that affect its
>>> characteristics?
>>
>> Yes. Its color changes :-)
>>
>> Beyond that - as far as RF characteristics go - the answer is probably
>> "Yes, but probably not enough that you would be able to detect the
>> difference in practice."
>>
>> What I believe would happen:
>>
>> (1) As the surface oxidizes, its resistance rises. This will cause
>> some amount of additional signal loss, as current flows through the
>> resistive layer.
>>
>> The actual amount of added loss will depend on the depth of the
>> oxidized layer, its actual resistance per square compared to
>> that of the underlying copper, and on the frequency (which
>> influences the *skin depth" of the material).
>>
>> Interestingly, the greatest amount of added loss does *not*
>> occur when the oxide layer's resistance is at a maximum (near-
>> infinite), since little or no current will flow through the
>> oxide... it becomes "invisible", and the current will flow
>> through the metallic copper under the oxide. The losses are
>> highest when the oxide layer is (1) of moderate resistance, and
>> (2) fairly thick, compared to the skin depth. At this point,
>> most of the current will be flowing through the oxide, and
>> excluded from the metallic copper by the skin effect.
>>
>> I don't know the actual numbers involved here (i.e. point of
>> greatest loss, for any given frequency). In practice I don't
>> think you'll come anywhere near these conditions for a copper-wire
>> antenna at UHF frequencies.
>>
>> (2) Copper oxide is not electrically linear - it behaves somewhat
>> like a semiconductor (you can actually make a diode out of it).
>> This nonlinearity may result in the generation of some second-
>> and higher-order harmonics, and possibly some intermodulation

>> products, if a significant amount of current is flowing through
>> the oxide layer.
>>
>> I doubt that this will be detectable.
>>
>> (3) If you manage to get oxidation into your actual metal-to-metal
>> contacts (and not just on the surface of the metal) the problem
>> in (2) becomes a lot worse, since you can have *all* of your
>> signal power flowing through what amounts to a diode. Harmonics
>> and IM products can become much more of a problem.
>>
>> In practice, I'd say that if you make sure that (3) is not a
>> problem... that is, all of your actual metal-to-metal contacts are
>> soldered or welded (or gooped with a conductive anti-oxidant paste
>> prior to assembly) you'll be OK, electrically. Surface oxidation
>> on the loop is unlikely to be a problem.
>>
>> You could always scrub down the loop with Brasso, wash it
>> carefully and dry it, and then spray it with an industrial-
>> strength outdoor-rated UV-proof clearcoat. That would leave it
>> shiny and bright for quite a long time.
>>
>
>
> My prior 'Net search revealed opinions from at least two camps, so I
> thought I'd ask here.
>
> Re: Color, I'll check with my decorator :-)
>
> Re: Item (3), connections will be soldered.
>
> I will be using #14 gauge wire as used in house wiring. I could leave
> the insulation on the wire, but moisture has a habit of wicking into the
> tiniest exposed crevice, as you are aware, and I'd rather not have to
> perform heroic efforts to prevent oxidation. By removing the insulation,
> I can at least observe the severity of oxidation and guess at whether it
> correlates to any observed communication problems.
>
> Thanks for the complete and thoughtful answer, Dave. You have persuaded
> me to proceed without worry.
>
> 73,
> John KD5YI
Loops are good! I have a full wave 160 meter loop, horizontal, at 35ft.
The copper begins to turn color within a month or so.

I see your address is Plano, TX. If you are down wind from any chemical
companies or oil refineries or houses that use oil heat, or even natural
gas users, the antenna and soldered connections will not just oxidize,
but will have other chemical reactions to the sulfur and other acids in

the air.

When I lived in Portland, Oregon, years ago, we and all the neighbors had oil heat. She sulfur from burning oil caused lots of corrosion on copper and soldered connections. Hope you have better results. As noted, clear plastic spray will help a lot on the soldered parts.

Paul, KD7HB

2632. Re: Is a copper wire UHF antenna affected by oxidation?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-05 17:23:21 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j93ref$3io$1@dont-email.me>
Source record: 3433

```
On 11/4/2011 9:25 PM, Paul Drahn wrote:
> On 11/4/2011 12:11 PM, John S wrote:
>> On 11/4/2011 1:17 PM, Dave Platt wrote:
>>> In article<j9116h$hme$1@dont-email.me>, John S<sophi.2@invalid.org>
>>> wrote:
>>>
>>>> Suppose my square loop antenna oxidizes. Does that affect its
>>>> characteristics?
>>>
>>> Yes. Its color changes :-)
>>>
>>> Beyond that - as far as RF characteristics go - the answer is probably
>>> "Yes, but probably not enough that you would be able to detect the
>>> difference in practice."
>>>
>>> What I believe would happen:
>>>
>>> (1) As the surface oxidizes, its resistance rises. This will cause
>>> some amount of additional signal loss, as current flows through the
>>> resistive layer.
>>>
>>> The actual amount of added loss will depend on the depth of the
>>> oxidized layer, its actual resistance per square compared to
>>> that of the underlying copper, and on the frequency (which
>>> influences the *skin depth" of the material).
>>>
>>> Interestingly, the greatest amount of added loss does *not*
>>> occur when the oxide layer's resistance is at a maximum (near-
>>> infinite), since little or no current will flow through the
>>> oxide... it becomes "invisible", and the current will flow
>>> through the metallic copper under the oxide. The losses are
>>> highest when the oxide layer is (1) of moderate resistance, and
>>> (2) fairly thick, compared to the skin depth. At this point,
>>> most of the current will be flowing through the oxide, and
>>> excluded from the metallic copper by the skin effect.
>>>
>>> I don't know the actual numbers involved here (i.e. point of
>>> greatest loss, for any given frequency). In practice I don't
>>> think you'll come anywhere near these conditions for a copper-wire
>>> antenna at UHF frequencies.
>>>
>>> (2) Copper oxide is not electrically linear - it behaves somewhat
>>> like a semiconductor (you can actually make a diode out of it).
>>> This nonlinearity may result in the generation of some second-
```

>>> and higher-order harmonics, and possibly some intermodulation
>>> products, if a significant amount of current is flowing through
>>> the oxide layer.
>>>
>>> I doubt that this will be detectable.
>>>
>>> (3) If you manage to get oxidation into your actual metal-to-metal
>>> contacts (and not just on the surface of the metal) the problem
>>> in (2) becomes a lot worse, since you can have *all* of your
>>> signal power flowing through what amounts to a diode. Harmonics
>>> and IM products can become much more of a problem.
>>>
>>> In practice, I'd say that if you make sure that (3) is not a
>>> problem... that is, all of your actual metal-to-metal contacts are
>>> soldered or welded (or gooped with a conductive anti-oxidant paste
>>> prior to assembly) you'll be OK, electrically. Surface oxidation
>>> on the loop is unlikely to be a problem.
>>>
>>> You could always scrub down the loop with Brasso, wash it
>>> carefully and dry it, and then spray it with an industrial-
>>> strength outdoor-rated UV-proof clearcoat. That would leave it
>>> shiny and bright for quite a long time.
>>>
>>
>>
>> My prior 'Net search revealed opinions from at least two camps, so I
>> thought I'd ask here.
>>
>> Re: Color, I'll check with my decorator :-)
>>
>> Re: Item (3), connections will be soldered.
>>
>> I will be using #14 gauge wire as used in house wiring. I could leave
>> the insulation on the wire, but moisture has a habit of wicking into the
>> tiniest exposed crevice, as you are aware, and I'd rather not have to
>> perform heroic efforts to prevent oxidation. By removing the insulation,
>> I can at least observe the severity of oxidation and guess at whether it
>> correlates to any observed communication problems.
>>
>> Thanks for the complete and thoughtful answer, Dave. You have persuaded
>> me to proceed without worry.
>>
>> 73,
>> John KD5YI
> Loops are good! I have a full wave 160 meter loop, horizontal, at 35ft.
> The copper begins to turn color within a month or so.
>
> I see your address is Plano, TX. If you are down wind from any chemical
> companies or oil refineries or houses that use oil heat, or even natural
> gas users, the antenna and soldered connections will not just oxidize,

> but will have other chemical reactions to the sulfur and other acids in
> the air.

Plano is north of Dallas. The prevailing winds are from the south. That
says it all.

> When I lived in Portland, Oregon, years ago, we and all the neighbors
> had oil heat. She sulfur from burning oil caused lots of corrosion on
> copper and soldered connections. Hope you have better results. As noted,
> clear plastic spray will help a lot on the soldered parts.
>
> Paul, KD7HB
>

The antenna looks like a diamond and is only about 1 foot in its
greatest dimension. It will be mounted no more than 6 feet above ground.
If I give it some thought, I can probably design the whole project such
that the antenna can be replaced without too much trouble.

Thanks for your input, Paul.

73,
John KD5YI

2633. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-07 07:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1320649501@panix.com>
Source record: 3434
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

2634. Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-07 09:14:14 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4eb7a166$0$5797$65785112@news.neostrada.pl>
Source record: 3435

"The first observations of cosmic radio emission were made by the American engineer Karl G. Jansky in 1932, while studying thunderstorm radio disturbances at a frequency of 20.5 MHz (14.6 m). He discovered radio emission of unknown origin, which varied within a 24-hour period. Later he identified the source of this radiation to be in the direction of the centre of our Galaxy. From: http://encyclozine.com/science/astronomy/radio

I understand that the frequency "varied within a 24-hour period". It is the "diurnal effect".
And what about the 365 days period (annual effect)?
S*

2635. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-07 10:36:06 UTC
From: david <none@nospam.com>
Message-ID: <j98cal$2h1$2@dont-email.me>
Source record: 3436

On Mon, 07 Nov 2011 10:14:14 +0100, Szczepan Bialek rearranged some
electrons to say:

> "The first observations of cosmic radio emission were made by the
> American engineer Karl G. Jansky in 1932, while studying thunderstorm
> radio disturbances at a frequency of 20.5 MHz (14.6 m). He discovered
> radio emission of unknown origin, which varied within a 24-hour period.
> Later he identified the source of this radiation to be in the direction
> of the centre of our Galaxy. From:
> http://encyclozine.com/science/astronomy/radio
>
> I understand that the frequency "varied within a 24-hour period". It is
> the "diurnal effect".
> And what about the 365 days period (annual effect)?
> S*

It is not the frequency that changed, but the intensity. And not a 24
hour period, but 23 hours, 56 minutes, thus proving that the noise was
not generated or varied by the earth's rotation.

http://www.enotes.com/karl-jansky-reference/karl-jansky

2636. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-07 17:43:15 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4eb818b3$0$5797$65785112@news.neostrada.pl>
Source record: 3437

" <none@nospam.com> napisa&#65533; w wiadomo&#65533;ci news:j98cal$2h1$2@dont-email.me...
> On Mon, 07 Nov 2011 10:14:14 +0100, Szczepan Bialek rearranged some
> electrons to say:
>
>> "The first observations of cosmic radio emission were made by the
>> American engineer Karl G. Jansky in 1932, while studying thunderstorm
>> radio disturbances at a frequency of 20.5 MHz (14.6 m). He discovered
>> radio emission of unknown origin, which varied within a 24-hour period.
>> Later he identified the source of this radiation to be in the direction
>> of the centre of our Galaxy. From:
>> http://encyclozine.com/science/astronomy/radio
>>
>> I understand that the frequency "varied within a 24-hour period". It is
>> the "diurnal effect".
>> And what about the 365 days period (annual effect)?
>> S*
>
> It is not the frequency that changed, but the intensity. And not a 24
> hour period, but 23 hours, 56 minutes, thus proving that the noise was
> not generated or varied by the earth's rotation.
>
> http://www.enotes.com/karl-jansky-reference/karl-jansky

Yes. "His" transmitter "produced" many frequencies. But Karl G. Jansky was
the pioneer in Radio Astronomy.

Now are the spacecrafts. They use the two frequencies.
I have found the link:
http://chaos.swarthmore.edu/courses/Physics130_2008/Pioneer_Anomaly.pdf

""It is also possible to infer the position in the sky of a
spacecraft from the Doppler data. This is accomplished by

examining the diurnal variation imparted to the Doppler shift

by the Earth's rotation. As the ground station rotates underneath

a spacecraft, the Doppler shift is modulated by a sinusoid."

Probably in this paper is also the answer for my question: "And what about
the 365 days period (annual effect)?

Unfortunately I am not an expert in radio. Do you know the answer?
S*

2637. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-07 18:50:39 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnjbga3v.bmq.nomail@xs8.xs4all.nl>
Source record: 3438

Szczepan Bialek <sz.bialek@wp.pl> wrote:
> Probably in this paper is also the answer for my question: "And what about
> the 365 days period (annual effect)?
>
> Unfortunately I am not an expert in radio. Do you know the answer?
> S*

Why are you so obsessed by this question?

2638. Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-07 19:05:06 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j99a53$jn6$2@dont-email.me>
Source record: 3439

I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal generator, an HP 8405A Vector Voltmeter, and a Narda dual directional coupler. I have tried to measure the line characteristics at 434 MHz but I am not satisfied that the results are accurate. It is very difficult to get good short and open circuits at this frequency and I also wonder if the 8405A accuracy suffers since a short is well away from the nominal system impedance of 50 ohms.

What if I simply calibrate the 8405 with a short on the end of the line (the measurement plane) then attach my antenna and accept the readings? Will they be very far from the real value?

Thanks,
John KD5YI

2639. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-07 20:59:42 UTC
From: Baron <baron@linuxmaniac.net>
Message-ID: <j99glp$2f1$1@dont-email.me>
Source record: 3440

John S Inscribed thus:

> I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal
> generator, an HP 8405A Vector Voltmeter, and a Narda dual directional
> coupler. I have tried to measure the line characteristics at 434 MHz
> but I am not satisfied that the results are accurate. It is very
> difficult to get good short and open circuits at this frequency and I
> also wonder if the 8405A accuracy suffers since a short is well away
> from the nominal system impedance of 50 ohms.
>
> What if I simply calibrate the 8405 with a short on the end of the
> line (the measurement plane) then attach my antenna and accept the
> readings? Will they be very far from the real value?
>
> Thanks,
> John KD5YI

The easiest way to get the characteristics of the line is to look up the manufacturers data. Somehow I don't think that this is really what you are looking for !

Irrespective of line length if its terminated in its characteristic impedance then you will only measure unity vswr. Open or short circuit terminations are easy enough to obtain. Having a known input quantity and measuring the return value will give you the line loss for that particular line length.

I suspect that its actually the antenna characteristics that you are seeking to measure ! In which case I would use a line, accurately cut, to be number of half waves long, then the impedance presented at the far end would be repeated at the near end. Of course you would need to have an accurately cut quarter wave length in order to determine whether the load was inductive or capacitive in nature.

I'm sure that if I'm mistaken some of the more knowledgeable will correct my errors.

HTH
--
Best Regards:
Baron.

2640. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 00:30:18 UTC
From: tom <news4792@taring.org>
Message-ID: <4eb8781a$0$79795$8046368a@newsreader.iphouse.net>
Source record: 3441

On 11/7/2011 12:50 PM, Rob wrote:
> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>> Probably in this paper is also the answer for my question: "And what about
>> the 365 days period (annual effect)?
>>
>> Unfortunately I am not an expert in radio. Do you know the answer?
>> S*
>
> Why are you so obsessed by this question?

He's not. He's just obsessed.

He loves to ask questio0ns, get answers, and then tell all of us that
any science newer than 100 or 150 years old is incorrect. Even when the
scientist in question changed his original theory due to newer and
better evidence.

It will happen. Just wait a bit.

tom
K0TAR

2641. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 02:51:13 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <H4adnUBBPK68BCXTnZ2dnUVZ_qOdnZ2d@bright.net>
Source record: 3442

Dear John S: Conventional wisdom and common sense suggests that measuring Zin (with an open and then a short at the far end) at a frequency where the transmission line looks like an odd multiple of 1/8 WL tends to provide the best quality of measurements to be used to characterize a piece of coax. Such measurements tend to result in two numbers that are similar. Extrapolation to 434 MHz should provide reasonable estimates.

The UHF version of the AIM4170 and its software will provide the values and do the indicated calculations. Of course, one needs to select the reasonable value (from the infinite inherently provided) for rad/m - but that is rarely an issue. Your equipment too should be able to provide the two values of Zin and a good HP calculator will do the rest.

Measurements near, say, frequencies where the coax looks like multiples of 1/4 WL produce numbers that are not favorable for calculation. Baron provides other ways to think of the task.

No doubt you know this, but others might not. 73, Mac N8TT

"Baron" wrote in message news:j99glp$2f1$1@dont-email.me...

John S Inscribed thus:

> I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal
> generator, an HP 8405A Vector Voltmeter, and a Narda dual directional
> coupler. I have tried to measure the line characteristics at 434 MHz
> but I am not satisfied that the results are accurate. It is very
> difficult to get good short and open circuits at this frequency and I
> also wonder if the 8405A accuracy suffers since a short is well away
> from the nominal system impedance of 50 ohms.
>
> What if I simply calibrate the 8405 with a short on the end of the
> line (the measurement plane) then attach my antenna and accept the
> readings? Will they be very far from the real value?
>
> Thanks,
> John KD5YI

The easiest way to get the characteristics of the line is to look up the manufacturers data. Somehow I don't think that this is really what you are looking for !

Irrespective of line length if its terminated in its characteristic impedance then you will only measure unity vswr. Open or short circuit terminations are easy enough to obtain. Having a known input quantity and measuring the return value will give you the line loss for that particular line length.

I suspect that its actually the antenna characteristics that you are seeking to measure ! In which case I would use a line, accurately cut, to be number of half waves long, then the impedance presented at the far end would be repeated at the near end. Of course you would need to have an accurately cut quarter wave length in order to determine whether the load was inductive or capacitive in nature.

I'm sure that if I'm mistaken some of the more knowledgeable will correct my errors.

HTH
--
Best Regards:
Baron.

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

2642. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 05:57:51 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9agd0$a5f$2@dont-email.me>
Source record: 3443

On 11/7/2011 2:59 PM, Baron wrote:
> John S Inscribed thus:
>
>> I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal
>> generator, an HP 8405A Vector Voltmeter, and a Narda dual directional
>> coupler. I have tried to measure the line characteristics at 434 MHz
>> but I am not satisfied that the results are accurate. It is very
>> difficult to get good short and open circuits at this frequency and I
>> also wonder if the 8405A accuracy suffers since a short is well away
>> from the nominal system impedance of 50 ohms.
>>
>> What if I simply calibrate the 8405 with a short on the end of the
>> line (the measurement plane) then attach my antenna and accept the
>> readings? Will they be very far from the real value?
>>
>> Thanks,
>> John KD5YI
>
> The easiest way to get the characteristics of the line is to look up the
> manufacturers data. Somehow I don't think that this is really what you
> are looking for !
>
> Irrespective of line length if its terminated in its characteristic
> impedance then you will only measure unity vswr. Open or short circuit
> terminations are easy enough to obtain. Having a known input quantity
> and measuring the return value will give you the line loss for that
> particular line length.
>
> I suspect that its actually the antenna characteristics that you are
> seeking to measure ! In which case I would use a line, accurately cut,
> to be number of half waves long, then the impedance presented at the
> far end would be repeated at the near end. Of course you would need to
> have an accurately cut quarter wave length in order to determine
> whether the load was inductive or capacitive in nature.
>
> I'm sure that if I'm mistaken some of the more knowledgeable will
> correct my errors.
>
> HTH

Good thoughts, Baron and J.C. Many thanks.

73,
John KD5YI

2643. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 08:10:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4eb8e3f2$0$5820$65785112@news.neostrada.pl>
Source record: 3444

Uzytkownik "Rob" <nomail@example.com> napisal w wiadomosci
news:slrnjbga3v.bmq.nomail@xs8.xs4all.nl...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>> Probably in this paper is also the answer for my question: "And what
>> about
>> the 365 days period (annual effect)?
>>
>> Unfortunately I am not an expert in radio. Do you know the answer?
>> S*
>
> Why are you so obsessed by this question?

Once more:
""In 1818 Arago found that the refraction of a prism for star light was the
same for light incident in the direction of the earth's orbital velocity v
as for that coming in the opposite direction. This unexpected null result
was explained that same year by Fresnel's ether-dray theory, which assumed
partial ether entrainment in transparent media by an amount depending upon
the first power of v." From: http://www.3rd1000.com/chronoatoms.htm

Today's spectrograph astronomers assume that the effect is not null.

It seems to me that today's astronomers are wrong because in physics are
still null result.
So I am looking for the result from communication with the spacecraft.
S*

2644. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 08:16:13 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4eb8e54e$0$2202$65785112@news.neostrada.pl>
Source record: 3445

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4eb8781a$0$79795$8046368a@newsreader.iphouse.net...
> On 11/7/2011 12:50 PM, Rob wrote:
>> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>> Probably in this paper is also the answer for my question: "And what
>>> about
>>> the 365 days period (annual effect)?
>>>
>>> Unfortunately I am not an expert in radio. Do you know the answer?
>>> S*
>>
>> Why are you so obsessed by this question?
>
>
> He's not. He's just obsessed.
>
> He loves to ask questio0ns, get answers, and then tell all of us that any
> science newer than 100 or 150 years old is incorrect. Even when the
> scientist in question changed his original theory due to newer and better
> evidence.

In each textbook is wrote that we can detect the angular motion of the Earth
but the orbital not.
>
> It will happen. Just wait a bit.

To you know the best evidence (the frequency variation from the spacecraft
in the annual period)?
S*

2645. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 13:29:49 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F9850D3A83Anonenowhere@88.198.244.100>
Source record: 3446

John S <sophi.2@invalid.org> wrote in news:j99a53$jn6$2@dont-email.me:

> I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal
> generator, an HP 8405A Vector Voltmeter, and a Narda dual directional
> coupler. I have tried to measure the line characteristics at 434 MHz
> but I am not satisfied that the results are accurate. It is very
> difficult to get good short and open circuits at this frequency and I
> also wonder if the 8405A accuracy suffers since a short is well away
> from the nominal system impedance of 50 ohms.
>
> What if I simply calibrate the 8405 with a short on the end of the
> line (the measurement plane) then attach my antenna and accept the
> readings? Will they be very far from the real value?

I am a little confused about your objective. The subject line seems inconsistent with your discussion.

If you are trying to measure Z at the reference plane in the simplest manner, then what you propose in your last par should give you the magnitude and phase of the reflection relative to a s/c (where Gamma=-1).

This simple paired measurement of the reflected wave from a s/c and unknown load depends on the forward wave being constant. That is true if the Thevenin source impedance of the source at the coupler is equal to the nominal characteristic impedance of the coupler and the coupler terminations, cables etc that you use. That would usually be met by a standard signal generator etc, but some SSGs depart from ideal on their highest output settings (check the specs). Measuring the forward wave under significantly different loads will provide an indication as to whether you can assume that it remains constant with different loads.

I give an explanation of why Vf is constant when Zs=Zo at http://vk1od.net/transmissionline/VSWR/Zs50.htm .

You will recall that there is an ongoing argument that a ham transmitter is well represented as a Thevenin source with Zs=50+j0 ohms, as some accident of design. The article describes a simple test using an accurate directional wattmeter to demonstrate that under different drive level and different frequencies, that Vf is often not necessarily independent of load impedance and that calculations that depend on constant Vf (such a Mismatch Loss) are in error.

Owen

2646. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 13:45:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F987C63E69nonenowhere@88.198.244.100>
Source record: 3447

Owen Duffy <none@no.where> wrote in news:Xns9F9850D3A83Anonenowhere@88.198.244.100:

> If you are trying to measure Z at the reference plane in the simplest
> manner, then what you propose in your last par should give you the
> magnitude and phase of the reflection relative to a s/c (where
> Gamma=-1).

I should have explained that this simple approach assumes the coupler etc to be ideal, the measurement instrument accurate etc.

We make those assumptions in using something like a Bird 43 to find VSWR, you could use your test setup with comparable accuracy to find more than just the magnitude of Gamma (and hence VSWR), but also its phase and therefore complex Z.

Owen

2647. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 20:13:27 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9c2h9$c69$1@dont-email.me>
Source record: 3448

On 11/8/2011 7:29 AM, Owen Duffy wrote:
> John S<sophi.2@invalid.org> wrote in news:j99a53$jn6$2@dont-email.me:
>
>> I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal
>> generator, an HP 8405A Vector Voltmeter, and a Narda dual directional
>> coupler. I have tried to measure the line characteristics at 434 MHz
>> but I am not satisfied that the results are accurate. It is very
>> difficult to get good short and open circuits at this frequency and I
>> also wonder if the 8405A accuracy suffers since a short is well away
>> from the nominal system impedance of 50 ohms.
>>
>> What if I simply calibrate the 8405 with a short on the end of the
>> line (the measurement plane) then attach my antenna and accept the
>> readings? Will they be very far from the real value?
>
> I am a little confused about your objective. The subject line seems
> inconsistent with your discussion.
>
> If you are trying to measure Z at the reference plane in the simplest
> manner, then what you propose in your last par should give you the
> magnitude and phase of the reflection relative to a s/c (where
> Gamma=-1).
>
> This simple paired measurement of the reflected wave from a s/c and
> unknown load depends on the forward wave being constant. That is true if
> the Thevenin source impedance of the source at the coupler is equal to
> the nominal characteristic impedance of the coupler and the coupler
> terminations, cables etc that you use. That would usually be met by a
> standard signal generator etc, but some SSGs depart from ideal on their
> highest output settings (check the specs). Measuring the forward wave
> under significantly different loads will provide an indication as to
> whether you can assume that it remains constant with different loads.
>
> I give an explanation of why Vf is constant when Zs=Zo at
> http://vk1od.net/transmissionline/VSWR/Zs50.htm .
>
> You will recall that there is an ongoing argument that a ham transmitter
> is well represented as a Thevenin source with Zs=50+j0 ohms, as some
> accident of design. The article describes a simple test using an
> accurate directional wattmeter to demonstrate that under different drive
> level and different frequencies, that Vf is often not necessarily
> independent of load impedance and that calculations that depend on
> constant Vf (such a Mismatch Loss) are in error.
>

> Owen

I think I am the confused one. Do I even need to know the transmission line characteristics if I am going to short the load end and set the vector voltmeter for a phase reference of 180 degrees?

I am following the HP app note AN-77 and they do not mention a transmission line. They say to short the load end of the coupler. I need to get my antenna away from the test setup, so I add the transmission line.

Has this made any sense?

John

2648. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 20:37:57 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <j9c3v6pqe1@dont-email.me>
Source record: 3449

On 11/8/2011 2:13 PM, John S wrote:
> I think I am the confused one. Do I even need to know the transmission
> line characteristics if I am going to short the load end and set the
> vector voltmeter for a phase reference of 180 degrees?
>
> I am following the HP app note AN-77 and they do not mention a
> transmission line. They say to short the load end of the coupler. I need
> to get my antenna away from the test setup, so I add the transmission line.

The problem is that these measurements are designed to be made
as close to the instrument as possible. Adding a piece of transmission
line adds loss and phase shift to the measurement.

So unless you know how to work backwards from the measure you get to
what you're really measuring at the far end, you won't really have a
valid answer.

Jeff

--
"Everything from Crackers to Coffins"

2649. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 20:54:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F98507D98D82nonenowhere@88.198.244.100>
Source record: 3450

John S <sophi.2@invalid.org> wrote in news:j9c2h9$c69$1@dont-email.me:

...

If you are not concerned with trying to calibrate out the directivity of the coupler (and if that is greater than the expected / tolerable Return Loss, you don't need to do so), and you have convinced yourself that Vf is independent of load impedance (as it will be if Zs=50+j0 and you use short low loss line, or a large attenuator at the coupler to control Zs), then the simple approach is to do the following.

> I think I am the confused one. Do I even need to know the transmission
> line characteristics if I am going to short the load end and set the
> vector voltmeter for a phase reference of 180 degrees?
>
> I am following the HP app note AN-77 and they do not mention a
> transmission line. They say to short the load end of the coupler. I
> need to get my antenna away from the test setup, so I add the
> transmission line.

And you understand that the Gamma found is at the reference plane (the plane of the calibrating s/c), and you can adjust it, or the calculated impedance to another point on a known feedline using the well known Telegrapher's Equation (http://www.vk1od.net/calc/tl/tllc.php solves this problem for a range of popular lines), albeit subject to error due to uncertainty about the known line.

(I did consider at one stage extending TLLC to allow specification of mismatch in terms of Gamma, rectangular and polar, but no one ever asked for it and I thought it not in demand. The complication is that finding Z from Gamma needs to use the nominal Zo of the test equipment, not the actual Zo of the lossy transmission line. I usually use a spreadsheet to perform the calcs, Excel can handle complex numbers using the COMPLEX and IM* functions either in the Analysis Tookpak in earlier versions, or built in to the later versions.)

An important thing to keep in mind is that while the measurements you make are of the TL in differential mode, it may be carrying significiant common mode components which will affect the differential currents. In making your measurements, if you change the common mode current path from the normal system configuration, you are measuring a different system and the results might not apply. There seems an unwarranted assumption in most discussion of such measurement projects that there is inisignificant common mode current.

> Has this made any sense?

Perhaps it is my turn to ask.

Owen

2650. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 21:07:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F98529113BBFnonenowhere@88.198.244.100>
Source record: 3351

Owen Duffy <none@no.where> wrote in news:Xns9F98507D98D82nonenowhere@
88.198.244.100:

...
> (I did consider at one stage extending TLLC to allow specification of
> mismatch in terms of Gamma, rectangular and polar, but no one ever asked
> for it and I thought it not in demand. The complication is that finding
> Z from Gamma needs to use the nominal Zo of the test equipment, not the
> actual Zo of the lossy transmission line. I usually use a spreadsheet to
> perform the calcs, Excel can handle complex numbers using the COMPLEX
> and IM* functions either in the Analysis Tookpak in earlier versions, or
> built in to the later versions.)

Agilen't AppCad can be a convenient tool for one-off calcs.

Nevertheless, there is value in see the results of measurement as you make
them, it helps to minimise the chance of leaving the task with errored
data.

Owen

2651. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 21:37:55 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9c7fl$1b5$1@dont-email.me>
Source record: 3352

On 11/8/2011 2:54 PM, Owen Duffy wrote:
> John S<sophi.2@invalid.org> wrote in news:j9c2h9$c69$1@dont-email.me:
>
> ...
>
> If you are not concerned with trying to calibrate out the directivity of
> the coupler (and if that is greater than the expected / tolerable Return
> Loss, you don't need to do so), and you have convinced yourself that Vf
> is independent of load impedance (as it will be if Zs=50+j0 and you use
> short low loss line, or a large attenuator at the coupler to control
> Zs), then the simple approach is to do the following.

I have convinced myself of nothing. Hence, my questions here.

I measured the coupler several years ago:

Narda Dual Directional Coupler...

435 MHz

Forward direction:
Coupling = -33.1 dB
Directivity = -56.8 dB

reverse direction:
Coupling = -33.5 dB
Directivity = -74.7 dB

The manual for the Fluke generator says it is 50 ohms output Z. I used
your Line Loss Calculator to find that my 2.4m coax is 50-j0.1 and
0.671dB loss.

Nice numbers, but I don't know what to do with them.

> And you understand that the Gamma found is at the reference plane (the
> plane of the calibrating s/c), and you can adjust it, or the calculated
> impedance to another point on a known feedline using the well known
> Telegrapher's Equation (http://www.vk1od.net/calc/tl/tllc.php solves
> this problem for a range of popular lines), albeit subject to error due
> to uncertainty about the known line.

I understand very little.

The Fluke gen feeds the Narda dual directional coupler. The coupler
output has the 94 inches of RG-142B/U attached. The coax has all the
ferrite cores in my possession slipped onto it to moderate common mode
current. The vector voltmeter A input is attached to the forward coupler
sampling port and the voltmeter B input is attached to the reverse

coupler sampling port.

I put the best short circuit I can muster on the far end of the coax and set the vector voltmeter to read 180 degrees. I record the A and B voltage inputs.

> (I did consider at one stage extending TLLC to allow specification of
> mismatch in terms of Gamma, rectangular and polar, but no one ever asked
> for it and I thought it not in demand. The complication is that finding
> Z from Gamma needs to use the nominal Zo of the test equipment, not the
> actual Zo of the lossy transmission line. I usually use a spreadsheet to
> perform the calcs, Excel can handle complex numbers using the COMPLEX
> and IM* functions either in the Analysis Tookpak in earlier versions, or
> built in to the later versions.)

I put the antenna on the far end of the coax. I read the A and B voltages and the angle between them. I use Excel to calculate the results as indicated in the HP AN-77 app note.

> An important thing to keep in mind is that while the measurements you
> make are of the TL in differential mode, it may be carrying significiant
> common mode components which will affect the differential currents. In
> making your measurements, if you change the common mode current path
> from the normal system configuration, you are measuring a different
> system and the results might not apply. There seems an unwarranted
> assumption in most discussion of such measurement projects that there is
> inisignificant common mode current.
>
>> Has this made any sense?
>
> Perhaps it is my turn to ask.
>
> Owen

I am aware of the common mode current problems and I do everything I can to minimize them. I don't know if I am successful, but I test the effectiveness of my efforts by running my hand up and down the coax and watching the voltmeter. I haven't been able to get all variation out, but some of the variation is due to my hand proximity to the antenna itself.

Back to you.

John

2652. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 21:44:23 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9c7rp$1b5$2@dont-email.me>
Source record: 3353

On 11/8/2011 2:37 PM, Jeffrey Angus wrote:
> On 11/8/2011 2:13 PM, John S wrote:
>> I think I am the confused one. Do I even need to know the transmission
>> line characteristics if I am going to short the load end and set the
>> vector voltmeter for a phase reference of 180 degrees?
>>
>> I am following the HP app note AN-77 and they do not mention a
>> transmission line. They say to short the load end of the coupler. I need
>> to get my antenna away from the test setup, so I add the transmission
>> line.
>
> The problem is that these measurements are designed to be made
> as close to the instrument as possible. Adding a piece of transmission
> line adds loss and phase shift to the measurement.
>
> So unless you know how to work backwards from the measure you get to
> what you're really measuring at the far end, you won't really have a
> valid answer.
>
> Jeff

Hi, Jeff -

Yeah, that's what I'm trying to learn by my questions.

Obviously, the antenna can't be sitting in front of the test equipment
so I'm trying to find a way to minimize proximity effects.

I should have used a different subject for the post, I think.

John

2653. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 21:54:02 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9c8ds$1b5$3@dont-email.me>
Source record: 3354

On 11/7/2011 8:51 PM, J. C. Mc Laughlin wrote:
> Dear John S: Conventional wisdom and common sense suggests that
> measuring Zin (with an open and then a short at the far end) at a
> frequency where the transmission line looks like an odd multiple of 1/8
> WL tends to provide the best quality of measurements to be used to
> characterize a piece of coax. Such measurements tend to result in two
> numbers that are similar. Extrapolation to 434 MHz should provide
> reasonable estimates.
>
> The UHF version of the AIM4170 and its software will provide the values
> and do the indicated calculations. Of course, one needs to select the
> reasonable value (from the infinite inherently provided) for rad/m - but
> that is rarely an issue. Your equipment too should be able to provide
> the two values of Zin and a good HP calculator will do the rest.
>
> Measurements near, say, frequencies where the coax looks like multiples
> of 1/4 WL produce numbers that are not favorable for calculation. Baron
> provides other ways to think of the task.
>
> No doubt you know this, but others might not. 73, Mac N8TT
>
> "Baron" wrote in message news:j99glp$2f1$1@dont-email.me...
>
> John S Inscribed thus:
>
>> I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal
>> generator, an HP 8405A Vector Voltmeter, and a Narda dual directional
>> coupler. I have tried to measure the line characteristics at 434 MHz
>> but I am not satisfied that the results are accurate. It is very
>> difficult to get good short and open circuits at this frequency and I
>> also wonder if the 8405A accuracy suffers since a short is well away
>> from the nominal system impedance of 50 ohms.
>>
>> What if I simply calibrate the 8405 with a short on the end of the
>> line (the measurement plane) then attach my antenna and accept the
>> readings? Will they be very far from the real value?
>>
>> Thanks,
>> John KD5YI
>
> The easiest way to get the characteristics of the line is to look up the
> manufacturers data. Somehow I don't think that this is really what you
> are looking for !
>

> Irrespective of line length if its terminated in its characteristic
> impedance then you will only measure unity vswr. Open or short circuit
> terminations are easy enough to obtain. Having a known input quantity
> and measuring the return value will give you the line loss for that
> particular line length.
>
> I suspect that its actually the antenna characteristics that you are
> seeking to measure ! In which case I would use a line, accurately cut,
> to be number of half waves long, then the impedance presented at the
> far end would be repeated at the near end. Of course you would need to
> have an accurately cut quarter wave length in order to determine
> whether the load was inductive or capacitive in nature.
>
> I'm sure that if I'm mistaken some of the more knowledgeable will
> correct my errors.
>
> HTH

Yeah, well, sometimes I get turned around in my quests and lose my way.

It is the antenna characteristics I am after. What I want to know is, do I need to know the transmission line characteristics which I use during the test in order to modify my test results to show the true antenna impedance?

What I want to do is build an antenna based on its radiation characteristics (as shown with EZNEC) and then measure its impedance (at the end of a few inches of parallel conductors) so that I can put in a matching network to give my source what it wants.

John

2654. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 21:58:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F985B37714E9nonenowhere@88.198.244.100>
Source record: 3355

John S <sophi.2@invalid.org> wrote in news:j9c7rp$1b5$2@dont-email.me:

> On 11/8/2011 2:37 PM, Jeffrey Angus wrote:
...
>> The problem is that these measurements are designed to be made
>> as close to the instrument as possible. Adding a piece of
>> transmission line adds loss and phase shift to the measurement.

The problem is that whilst putting the unknown right at the instrument might solve some problems, it creates others, particularly when the unknown is an antenna system.

>>
>> So unless you know how to work backwards from the measure you get to
>> what you're really measuring at the far end, you won't really have a
>> valid answer.

Well, you can work backwards as I explained, though again at the expense of some uncertainty (error).

...
> Obviously, the antenna can't be sitting in front of the test equipment
> so I'm trying to find a way to minimize proximity effects.

Don't overlook that the reference plane need not necessarily at the end of the directional coupler, it could be anywhere that you can conveniently or inconveniently apply the calibration s/c (eg at the antenna connector for flange as appropriate).

Try this on the bench with a substantial length of coax to the reference plane, and measure a 25 ohm load (pair of 50 ohm terms on a Tee). The reference plane is determined by where you apply the calibration s/c.

It was common practice using slotted lines to make such measurements with the slotted line a long way from the reference point, which might be quite close to the antenna, possibly a s/c applied at the antenna flange, or on a W/G switch near the antenna.

BTW, you have read the AN, and noted no doubt the issue with error due to the probes loading the test circuit. I would not obsess too much over perfection unless you are prepared to go to great lengths to try and allocate the errors and obtain a better result.

Owen

2655. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 22:04:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F985C562F575nonenowhere@88.198.244.100>
Source record: 3356

John S <sophi.2@invalid.org> wrote in news:j9c8ds$1b5$3@dont-email.me:

...
> What I want to do is build an antenna based on its radiation
> characteristics (as shown with EZNEC) and then measure its impedance (at
> the end of a few inches of parallel conductors) so that I can put in a
> matching network to give my source what it wants.

My mention of the common mode current path is very relevant.

You have test equipment that is 'not-balanced' and a load that is balanced or more likely 'not-prefectly-balanced' in a different way. That is likely (certain) to cause common mode current, which means the common mode current path directly participates in radiation, making the antenna different to your design.

Owen

2656. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 22:12:19 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9c9g5$1b5$5@dont-email.me>
Source record: 3357

On 11/8/2011 3:58 PM, Owen Duffy wrote:
> John S<sophi.2@invalid.org> wrote in news:j9c7rp$1b5$2@dont-email.me:
>
>> On 11/8/2011 2:37 PM, Jeffrey Angus wrote:
> ...
>>> The problem is that these measurements are designed to be made
>>> as close to the instrument as possible. Adding a piece of
>>> transmission line adds loss and phase shift to the measurement.
>
> The problem is that whilst putting the unknown right at the instrument
> might solve some problems, it creates others, particularly when the
> unknown is an antenna system.
>
>>>
>>> So unless you know how to work backwards from the measure you get to
>>> what you're really measuring at the far end, you won't really have a
>>> valid answer.
>
> Well, you can work backwards as I explained, though again at the expense
> of some uncertainty (error).
>
> ...
>> Obviously, the antenna can't be sitting in front of the test equipment
>> so I'm trying to find a way to minimize proximity effects.
>
> Don't overlook that the reference plane need not necessarily at the end
> of the directional coupler, it could be anywhere that you can
> conveniently or inconveniently apply the calibration s/c (eg at the
> antenna connector for flange as appropriate).

AHA! I think this is the answer I was needing. So, if I short the end of the coax and calibrate my vector voltmeter I can then believe the voltmeter when it says my load is a certain impedance?

I don't know were I got the idea that I had to have the coax characteristics to be used to modify the readings for accuracy.

> Try this on the bench with a substantial length of coax to the reference
> plane, and measure a 25 ohm load (pair of 50 ohm terms on a Tee). The
> reference plane is determined by where you apply the calibration s/c.

Okay. I'll do that as soon as I can find the instruments. They are somewhere around here.

> It was common practice using slotted lines to make such measurements
> with the slotted line a long way from the reference point, which might

> be quite close to the antenna, possibly a s/c applied at the antenna
> flange, or on a W/G switch near the antenna.
>
> BTW, you have read the AN, and noted no doubt the issue with error due
> to the probes loading the test circuit. I would not obsess too much over
> perfection unless you are prepared to go to great lengths to try and
> allocate the errors and obtain a better result.
>
> Owen

I don't obsess. I'm usually happy with errors of less than 1.5 to 1
(depending on circumstances, of course).

Thanks, Owen.

John

2657. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 22:15:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F985E1F8D1EBnonenowhere@88.198.244.100>
Source record: 3358

John S <sophi.2@invalid.org> wrote in news:j9c7fl$1b5$1@dont-email.me:

...
>
> The manual for the Fluke generator says it is 50 ohms output Z. I used

Ok, be aware that sometimes that impedance is gauranteed to less than
full output.

If it is 50+j0, then your Vf reading should not change in magnitude with
load variation. If it does change, you have to factor it into the calcs
as in the AN.

> your Line Loss Calculator to find that my 2.4m coax is 50-j0.1 and
> 0.671dB loss.

Since it seems you are applying the cal short at the load end of that
line section, then its loss is not so important (so long as it is
stable).

>
> Nice numbers, but I don't know what to do with them.
>
...
> The Fluke gen feeds the Narda dual directional coupler. The coupler
> output has the 94 inches of RG-142B/U attached. The coax has all the
> ferrite cores in my possession slipped onto it to moderate common mode
> current. The vector voltmeter A input is attached to the forward
> coupler sampling port and the voltmeter B input is attached to the
> reverse coupler sampling port.
>
> I put the best short circuit I can muster on the far end of the coax
> and set the vector voltmeter to read 180 degrees. I record the A and B
> voltage inputs.

Ok, that sounds fine. If find it helps to measure something that is
known. Do you have a pair of 50 ohm terms and a T that you can measure
and convince yourself that it is working.

>
> I put the antenna on the far end of the coax. I read the A and B
> voltages and the angle between them. I use Excel to calculate the
> results as indicated in the HP AN-77 app note.

Sounds fine.

>
> I am aware of the common mode current problems and I do everything I
> can to minimize them. I don't know if I am successful, but I test the
> effectiveness of my efforts by running my hand up and down the coax
> and watching the voltmeter. I haven't been able to get all variation
> out, but some of the variation is due to my hand proximity to the
> antenna itself.

Ok, but it remains a potential problem.

Owen

2658. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 22:16:01 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9c9n3$1b5$6@dont-email.me>
Source record: 3359

On 11/8/2011 4:04 PM, Owen Duffy wrote:
> John S<sophi.2@invalid.org> wrote in news:j9c8ds$1b5$3@dont-email.me:
>
> ...
>> What I want to do is build an antenna based on its radiation
>> characteristics (as shown with EZNEC) and then measure its impedance (at
>> the end of a few inches of parallel conductors) so that I can put in a
>> matching network to give my source what it wants.
>
> My mention of the common mode current path is very relevant.
>
> You have test equipment that is 'not-balanced' and a load that is balanced
> or more likely 'not-prefectly-balanced' in a different way. That is likely
> (certain) to cause common mode current, which means the common mode current
> path directly participates in radiation, making the antenna different to
> your design.
>
> Owen

Yes, I am aware of that problem. Perhaps I will build a current pick-up loop and run it up and down the coax. I can use the sensitive input of the vector voltmeter or maybe my Boonton RF voltmeter. I can then try to minimize the common mode current.

John

2659. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 22:18:45 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9c9s6$1b5$7@dont-email.me>
Source record: 3360

On 11/8/2011 4:15 PM, Owen Duffy wrote:
> John S<sophi.2@invalid.org> wrote in news:j9c7fl$1b5$1@dont-email.me:
>
> ...
>>
>> The manual for the Fluke generator says it is 50 ohms output Z. I used
>
> Ok, be aware that sometimes that impedance is gauranteed to less than
> full output.
>
> If it is 50+j0, then your Vf reading should not change in magnitude with
> load variation. If it does change, you have to factor it into the calcs
> as in the AN.
>
>> your Line Loss Calculator to find that my 2.4m coax is 50-j0.1 and
>> 0.671dB loss.
>
> Since it seems you are applying the cal short at the load end of that
> line section, then its loss is not so important (so long as it is
> stable).

Okay! This is another answer for which I was hoping. This simplifies
everything.

Thanks again, Owen.

John

2660. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 22:24:08 UTC
From: Baron <baron@linuxmaniac.net>
Message-ID: <j9ca03$61l$1@dont-email.me>
Source record: 3361

John S Inscribed thus:

> On 11/7/2011 8:51 PM, J. C. Mc Laughlin wrote:
>> Dear John S: Conventional wisdom and common sense suggests that
>> measuring Zin (with an open and then a short at the far end) at a
>> frequency where the transmission line looks like an odd multiple of
>> 1/8 WL tends to provide the best quality of measurements to be used
>> to characterize a piece of coax. Such measurements tend to result in
>> two numbers that are similar. Extrapolation to 434 MHz should provide
>> reasonable estimates.
>>
>> The UHF version of the AIM4170 and its software will provide the
>> values and do the indicated calculations. Of course, one needs to
>> select the reasonable value (from the infinite inherently provided)
>> for rad/m - but that is rarely an issue. Your equipment too should be
>> able to provide the two values of Zin and a good HP calculator will
>> do the rest.
>>
>> Measurements near, say, frequencies where the coax looks like
>> multiples of 1/4 WL produce numbers that are not favorable for
>> calculation. Baron provides other ways to think of the task.
>>
>> No doubt you know this, but others might not. 73, Mac N8TT
>>
>> "Baron" wrote in message news:j99glp$2f1$1@dont-email.me...
>>
>> John S Inscribed thus:
>>
>>> I have about 94 inches of RG-142B/U. I am using a Fluke 6061A signal
>>> generator, an HP 8405A Vector Voltmeter, and a Narda dual
>>> directional coupler. I have tried to measure the line
>>> characteristics at 434 MHz but I am not satisfied that the results
>>> are accurate. It is very difficult to get good short and open
>>> circuits at this frequency and I also wonder if the 8405A accuracy
>>> suffers since a short is well away from the nominal system impedance
>>> of 50 ohms.
>>>
>>> What if I simply calibrate the 8405 with a short on the end of the
>>> line (the measurement plane) then attach my antenna and accept the
>>> readings? Will they be very far from the real value?
>>>
>>> Thanks,
>>> John KD5YI
>>

>> The easiest way to get the characteristics of the line is to look up
>> the manufacturers data. Somehow I don't think that this is really
>> what you are looking for !
>>
>> Irrespective of line length if its terminated in its characteristic
>> impedance then you will only measure unity vswr. Open or short
>> circuit terminations are easy enough to obtain. Having a known input
>> quantity and measuring the return value will give you the line loss
>> for that particular line length.
>>
>> I suspect that its actually the antenna characteristics that you are
>> seeking to measure ! In which case I would use a line, accurately
>> cut, to be number of half waves long, then the impedance presented at
>> the far end would be repeated at the near end. Of course you would
>> need to have an accurately cut quarter wave length in order to
>> determine whether the load was inductive or capacitive in nature.
>>
>> I'm sure that if I'm mistaken some of the more knowledgeable will
>> correct my errors.
>>
>> HTH
>
> Yeah, well, sometimes I get turned around in my quests and lose my
> way.
>
> It is the antenna characteristics I am after. What I want to know is,
> do I need to know the transmission line characteristics which I use
> during the test in order to modify my test results to show the true
> antenna impedance?
>
> What I want to do is build an antenna based on its radiation
> characteristics (as shown with EZNEC) and then measure its impedance
> (at the end of a few inches of parallel conductors) so that I can put
> in a matching network to give my source what it wants.
>
> John

Surely the antenna will have some means of adjustment ie gamma match,
and since you know that if the electrical length of cable equals a
number of half waves, adjusting the antenna to show minimum VSWR at
generator end, achieves your goal...

--
Best Regards:
Baron.

2661. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-08 22:24:48 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9ca7i$1b5$8@dont-email.me>
Source record: 3362

On 11/8/2011 4:15 PM, Owen Duffy wrote:
> John S<sophi.2@invalid.org> wrote in news:j9c7fl$1b5$1@dont-email.me:
>
> ...
>>
>> The manual for the Fluke generator says it is 50 ohms output Z. I used
>
> Ok, be aware that sometimes that impedance is gauranteed to less than
> full output.
>
> If it is 50+j0, then your Vf reading should not change in magnitude with
> load variation. If it does change, you have to factor it into the calcs
> as in the AN.

I just looked back at some of my data and I see that the Vf changes slightly with some loads. However, this variation is used in my Excel spreadsheet to calculate the results. All is according to the HP app note.

John

2662. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-09 00:58:29 UTC
From: tom <news4792@taring.org>
Message-ID: <4eb9d034$0$79797$8046368a@newsreader.iphouse.net>
Source record: 3363

On 11/8/2011 2:10 AM, Szczepan Bialek wrote:
> Uzytkownik "Rob"<nomail@example.com> napisal w wiadomosci
> news:slrnjbga3v.bmq.nomail@xs8.xs4all.nl...
>> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>> Probably in this paper is also the answer for my question: "And what
>>> about
>>> the 365 days period (annual effect)?
>>>
>>> Unfortunately I am not an expert in radio. Do you know the answer?
>>> S*
>>
>> Why are you so obsessed by this question?
>
> Once more:
> ""In 1818 Arago found that the refraction of a prism for star light was the
> same for light incident in the direction of the earth's orbital velocity v
> as for that coming in the opposite direction. This unexpected null result
> was explained that same year by Fresnel's ether-dray theory, which assumed
> partial ether entrainment in transparent media by an amount depending upon
> the first power of v." From: http://www.3rd1000.com/chronoatoms.htm
>
> Today's spectrograph astronomers assume that the effect is not null.
>
> It seems to me that today's astronomers are wrong because in physics are
> still null result.
> So I am looking for the result from communication with the spacecraft.
> S*
>
>

Like I said. He doesn't like new results. Ever.

And if you provide evidence that he doesn't like, such as spacecraft
comm results that will likely not be what he likes, he will dispute it
and point back to the deprecated experiments.

It never ends. He is the ultimate troll.

Ok, the ultimate troll isn't him, it's another that hasn't shown up here
lately, but he's very close.

tom
K0TAR

2663. SUPER HOT VIDEOS N BULK SEXY PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-09 05:20:27 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <f385cc80-3754-4ec0-8f22-a904a2931359@h23g2000pra.googlegroups.com>
Source record: 3364

HOT VIDEOS
kiss videos
http://videosonblog.blogspot.com/2010/11/kiss-videos.html
bed room videos
http://videosonblog.blogspot.com/2010/11/bed-room-videos.html
masala videos
http://videosonblog.blogspot.com/2010/11/masala-videos.html
romantic videos
http://videosonblog.blogspot.com/2010/11/romantic-videos.html

HOT PHOTOS
PHOTOS
http://photostwo2u.blogspot.com/2010/09/photos.html
HOT HOT PHOTOS
http://photostwo2u.blogspot.com/2010/09/photos-2.html
SEXY PHOTOS
http://photostwo2u.blogspot.com/2010/09/photos-3.html

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SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html
dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2664. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-09 07:57:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4eba326d$0$2187$65785112@news.neostrada.pl>
Source record: 3365

"tom" <news4792@taring.org> napisal w wiadomosci
news:4eb9d034$0$79797$8046368a@newsreader.iphouse.net...
> On 11/8/2011 2:10 AM, Szczepan Bialek wrote:
>> Uzytkownik "Rob"<nomail@example.com> napisal w wiadomosci
>> news:slrnjbga3v.bmq.nomail@xs8.xs4all.nl...
>>> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>>> Probably in this paper is also the answer for my question: "And what
>>>> about
>>>> the 365 days period (annual effect)?
>>>>
>>>> Unfortunately I am not an expert in radio. Do you know the answer?
>>>> S*
>>>
>>> Why are you so obsessed by this question?
>>
>> Once more:
>> ""In 1818 Arago found that the refraction of a prism for star light was
>> the
>> same for light incident in the direction of the earth's orbital velocity
>> v
>> as for that coming in the opposite direction. This unexpected null result
>> was explained that same year by Fresnel's ether-dray theory, which
>> assumed
>> partial ether entrainment in transparent media by an amount depending
>> upon
>> the first power of v." From: http://www.3rd1000.com/chronoatoms.htm
>>
>> Today's spectrograph astronomers assume that the effect is not null.
>>
>> It seems to me that today's astronomers are wrong because in physics are
>> still null result.
>> So I am looking for the result from communication with the spacecraft.
>> S*
>
> Like I said. He doesn't like new results. Ever.

I am looking for the new result.

Astronomers ASSUME. I do not know why.
>
> And if you provide evidence that he doesn't like, such as spacecraft comm
> results that will likely not be what he likes, he will dispute it and
> point back to the deprecated experiments.

In today's physics is opinion that we can detect the angular motion (Sagnac effect) but it is impossible to detect the linear motion.
Who and when deprecated the famous null result?
S*

2665. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-09 13:07:35 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <j9dtur$898$1@speranza.aioe.org>
Source record: 3366

> Once more:
> ""In 1818 Arago found that the refraction of a prism for star light
> was the
> same for light incident in the direction of the earth's orbital
> velocity v
> as for that coming in the opposite direction. This unexpected null result
> was explained that same year by Fresnel's ether-dray theory, which
> assumed
> partial ether entrainment in transparent media by an amount depending
> upon
> the first power of v." From: http://www.3rd1000.com/chronoatoms.htm
>
> Today's spectrograph astronomers assume that the effect is not null.
>
> It seems to me that today's astronomers are wrong because in physics are
> still null result.
> So I am looking for the result from communication with the spacecraft.
> S*

Earth's rotation is about 465.1 m/s
Say the average frequency of visible light is 500THz

doppler shift is (Vr/C)*F = (465/ 3 * 10^8)*500 * 10^12 = 7.75 10^8Hz
So to see the shift you will need to be able to observe your light
frequency to an accuracy of about 0.00015%. Which would have been
impossible for Arago.

Of course the above figures are only true for light coming directly at
the observer ie on the horizon, so for other angles there is a Cos Theta
term to reduce the effect even more (to zero directly overhead).

Jeff

2666. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-09 13:17:47 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <3pqdnQ5ZEf7j4CfTnZ2dnUVZ_h6dnZ2d@bright.net>
Source record: 3367

Dear John S: My comment of a few days ago was written under the assumption that you wished to know the characteristics of the TL. It has developed that you wish to measure the impedance of an antenna at the end of a piece of coax.

The procedures for removing the effects of a fixture, which I expect to be in the AN and require a short, an open, and a known load, may also be applied to a piece of coax. The result is the ability to remove the presence of the coax and be left with the antenna's impedance.

I do this in an automated way with the "calibration" feature of the AM4170. One scans a span of frequencies three times storing information about what the coax looks like with a short, an open, and (usually) 50 ohms at the far end. This takes some time depending on the size of the frequency span and the step size. The stored numbers (stored in a very inexpensive, tiny computer) are then used automatically to calculate (over the same span) the actual Z at the end of the coax.

Doing this procedure by hand, which I have done using the numbers measured by a GR bridge, is labor intensive. Before the advent in 1972 of the HP35, it was real pain. One did not use very many frequencies! It appears that you are interested in only one frequency.

Comments about choking common mode are right on target. Owen Duffy is one of the good guys.

73, Mac N8TT

P.S. Do you have a call sign?

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

2667. Re: Measuring transmission line characteristics

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-09 15:02:47 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <j9e4mquov1@dont-email.me>
Source record: 3368

On 11/9/2011 7:17 AM, J. C. Mc Laughlin wrote:
> Dear John S: My comment of a few days ago was written under the
> assumption that you wished to know the characteristics of the TL. It has
> developed that you wish to measure the impedance of an antenna at the
> end of a piece of coax.

Yes, I know. Sorry for the misleading subject line. I should have
presented my query differently.

> The procedures for removing the effects of a fixture, which I expect to
> be in the AN and require a short, an open, and a known load, may also be
> applied to a piece of coax. The result is the ability to remove the
> presence of the coax and be left with the antenna's impedance.
>
> I do this in an automated way with the "calibration" feature of the
> AM4170. One scans a span of frequencies three times storing information
> about what the coax looks like with a short, an open, and (usually) 50
> ohms at the far end. This takes some time depending on the size of the
> frequency span and the step size. The stored numbers (stored in a very
> inexpensive, tiny computer) are then used automatically to calculate
> (over the same span) the actual Z at the end of the coax.
>
> Doing this procedure by hand, which I have done using the numbers
> measured by a GR bridge, is labor intensive. Before the advent in 1972
> of the HP35, it was real pain. One did not use very many frequencies! It
> appears that you are interested in only one frequency.
>
> Comments about choking common mode are right on target. Owen Duffy is
> one of the good guys.

Yes, he is. I've had some private correspondence with him and found him
to be very knowledgeable and helpful. I check his Web site often.

> 73, Mac N8TT
>
> P.S. Do you have a call sign?
>
> J. C. Mc Laughlin
> Michigan U.S.A.
> Home: JCM@Power-Net.Net

Thanks, J.C.

73,
John KD5YI

2668. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-09 18:24:45 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ebac56e$0$5805$65785112@news.neostrada.pl>
Source record: 3369

"Jeff" <jeff@jsystems.com> napisal w wiadomosci
news:j9dtur$898$1@speranza.aioe.org...
>
>> Once more:
>> ""In 1818 Arago found that the refraction of a prism for star light
>> was the
>> same for light incident in the direction of the earth's orbital
>> velocity v
>> as for that coming in the opposite direction. This unexpected null result
>> was explained that same year by Fresnel's ether-dray theory, which
>> assumed
>> partial ether entrainment in transparent media by an amount depending
>> upon
>> the first power of v." From: http://www.3rd1000.com/chronoatoms.htm
>>
>> Today's spectrograph astronomers assume that the effect is not null.
>>
>> It seems to me that today's astronomers are wrong because in physics are
>> still null result.
>> So I am looking for the result from communication with the spacecraft.
>> S*
>
>
> Earth's rotation is about 465.1 m/s
> Say the average frequency of visible light is 500THz
>
> doppler shift is (Vr/C)*F = (465/ 3 * 10^8)*500 * 10^12 = 7.75 10^8Hz
> So to see the shift you will need to be able to observe your light
> frequency to an accuracy of about 0.00015%. Which would have been
> impossible for Arago.

"In 1818 Arago found that the refraction of a prism for star light was the
same for light incident in the direction of the earth's orbital velocity v
as for that coming in the opposite direction".

The orbital speed is about 30 km/s. Todays radio methods are adequate for
0.5 and for 30.
>
> Of course the above figures are only true for light coming directly at the
> observer ie on the horizon, so for other angles there is a Cos Theta term
> to reduce the effect even more (to zero directly overhead).

The rotational speed was too small for everybody till 1925. In this year the
Michelson and Gale detected the Earth's rotation.. But nobody detect the
orbital speed.

The same is with the spacecrafts. The diurnal effect is confirmed. I am looking for the annual effect.
S*
S*

2669. Line isolator for VHF UHF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-10 17:13:07 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <abad3160-672b-43cc-81b9-12f9e43ee308@p1g2000yqh.googlegroups.com>
Source record: 3370

Is a current balun or line isolator effective in limiting common mode
current from the outside of a coaxial feed line when the antenna is a
two meter & seventy centimeter dual band vertical? What sort of line
isolation would be best practice for keeping current off of the
outside of the coax shield?
--
Tom Horne, W3TDH

2670. Re: Line isolator for VHF UHF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-10 20:52:41 UTC
From: Sal <sobars@aol.com>
Message-ID: <j9hdj4$a2n$1@dont-email.me>
Source record: 3371

"Tom Horne" <hornetd@gmail.com> wrote in message
news:abad3160-672b-43cc-81b9-12f9e43ee308@p1g2000yqh.googlegroups.com...
> Is a current balun or line isolator effective in limiting common mode
> current from the outside of a coaxial feed line when the antenna is a
> two meter & seventy centimeter dual band vertical? What sort of line
> isolation would be best practice for keeping current off of the
> outside of the coax shield?
> --
> Tom Horne, W3TDH

Yes, for current balun; not sure exactly what you mean by "line isolator";
it appears to be a choke, maybe just another name for choke balun. Let me
be on that.

You have some easy ways to make your own current balun, which might be
called a choke balun.

(1) Slide a couple dozen Mix 43 ferrite cores over the coax and secure them
to the coax close to the antenna. I say Mix 43 because it's pretty common.
Mix 31, 43, 44 and 46 are suitable for 2m choking. Mix 61 covers 440 but
not 2m. See:
http://www.fair-rite.com/newfair/pdf/CUP%20Paper.pdf for one company's view
of things.

(2) Wind a section of the coax (again, close to the antenna) into a fairly
tight coil of three to six turns on a cylindrical form. There are many
opinions regarding size and number of turns if you search the web.

(3) Some advice would have you wind a few turns on a ferrite toroid but it
would have be with a short section of odd, small diameter coax, since RG-8,
RG-58 can't be bent that tightly.

As to "best practice," that, sir, is far too risky to declare in a
newsgroup. (If I had a few thousand dollars more in test equipment, I might
risk an opinion.)

I will say that if you can manhandle the line -- grasping, waving,
wiggling -- and you see the VSWR changing, it's possible you've not gotten
it right, yet.

"Sal"
(KD6VKW)

2671. Re: Line isolator for VHF UHF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-10 21:09:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F9A52F1DD7A3nonenowhere@88.198.244.100>
Source record: 3372

Tom Horne <hornetd@gmail.com> wrote in news:abad3160-672b-43cc-81b9-12f9e43ee308@p1g2000yqh.googlegroups.com:

> Is a current balun or line isolator effective in limiting common mode
> current from the outside of a coaxial feed line when the antenna is a
> two meter & seventy centimeter dual band vertical? What sort of line
> isolation would be best practice for keeping current off of the
> outside of the coax shield?

Tom,

I published a design for a common mode choke which had moderate choking impedance from 50Mhz to 150MHz, see http://vk1od.net/balun/G1-1-FT140-61/ . It uses four turns of coax on a 1.4" #61 toroid, and common mode impedance data is shown.

Most manufactured products and most ham designs do not include predicted or measured choking impedance data which is most often the key parameter in selecting a device. If you don't have that, you are guessing.

The design mentioned above might be adapted for 130 - 480MHz by taking a turn off, but I would be guessing. Without modelling and measuring, it is just a guess.

Whilst I have explored the W2DU style baluns on HF, I don't have any designs that are intended for your application. I am sure there would be viable designs for low power. A string of suitable clipons might be viable (if more expensive).

Owen

2672. Auto tuner matching range

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-11 22:58:57 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j9k9blemr1@dont-email.me>
Source record: 3373

I have an auto tuner whose specs for the output are:
"10 to 250 ohms"
Does that have any useful information other than perhaps the R part of R+j.

2673. Re: Auto tuner matching range

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-11 23:17:32 UTC
From: dplatt@radagast.org
Message-ID: <c1n0p8-4h1.ln1@radagast.org>
Source record: 3374

>I have an auto tuner whose specs for the output are:
>"10 to 250 ohms"

>Does that have any useful information other than perhaps the R part of R+j.

That's not particularly comprehensive information, since it doesn't say whether it's R, or |Z| that it's describing, and doesn't say what frequency range this spec might apply to. It's likely that any auto-tuner (or any manual one!) will have different matching ranges on different bands.

This spec *might* mean "This tuner will successfully match most loads within a 5:1 SWR range, on most of its bands, most of the time."

Or, it might mean much less than that.

You could ask the manufacturer for a full specification on the actual impedances that can be matched on various bands (e.g. a set of Smith charts). They may or may not be able to provide them.

If you know what the switchable reactances inside the tuner are, and what the switching topology is (most likely a bidirectional "L" but it might not be) then you could calculate and plot the outer envelope of the matching range for any given frequency. The math isn't too terrible.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

2674. Re: Auto tuner matching range

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-11 23:28:22 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <mln0p8-i15.ln1@mail.specsol.com>
Source record: 3375

Wayne <mygarbagecan@verizon.net> wrote:
> I have an auto tuner whose specs for the output are:
> "10 to 250 ohms"
> Does that have any useful information other than perhaps the R part of R+j.

Not really as it could mean magnitude |R+j| or just R.

--
Jim Pennino

Remove .spam.sux to reply.

2675. Re: Auto tuner matching range

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-12 06:13:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9F9BAF347F6D2nonenowhere@88.198.244.100>
Source record: 3376

"Wayne" <mygarbagecan@verizon.net> wrote in
news:j9k9blemr1@dont-email.me:

> I have an auto tuner whose specs for the output are:
> "10 to 250 ohms"
> Does that have any useful information other than perhaps the R part of
> R+j.
>

It shows that the author of the specs doesn't understand impedance which is two dimensional (real and imaginary part), and he is appealing to those hams (probably the majority) who think that the magnitude of Z (which is a scalar quantity like they have used) will win the sale.

If we read it litterally, they have given they have writen impedances with a real part and zero for the imaginary part. The equivalent VSWR (50) is 5:1 (funny that). It is not a very wide range tuner for those purely resistive loads.

That said, the information doesn't help much in selecting the tuner because you will almost always use it with a load where X is not only not zero, but quite likely much greater than the R component.

It is BS technospeak for a dumbed down pseudo tecnical buyer.

Owen

2676. SOUTH INDIAN HOT ACTRESS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-12 17:16:13 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <fae6e76d-6ab1-4209-961e-c0bf6a18125e@j19g2000pro.googlegroups.com>
Source record: 3377

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

ILEANA HOT STILLS IN NANBAN MOVIE
http://actressgallery-kalyani.blogspot.com/2011/11/nanban-movie-stills.html
PRIYUDU HOT ROMANTIC STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/priyudu-movie-stills.html
ADHINAYAKUDU LATEST MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/adhinayakudu-movie-stills.html
HOT KATRINA KAIF PHOTOS
http://actressgallery-kalyani.blogspot.com/2011/09/katrina-kaif.html
AISHWARYA RAI HOT HQ PHOTO STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/aishwarya-rai.html
ASIN HOT PHOTO GALLERY
http://actressgallery-kalyani.blogspot.com/2011/09/asin.html
SAKUNI MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/10/sakuni-movie-stills.html
7TH SENSE MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/10/7th-sense-movie-stills.html
MOGUDU MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/mogudu-movie-stills.html
HANSIKA MATOWNI LATEST HOT STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/hansika-motwani.html
KAJAL AGARWAL HOT PHOTOS
http://actressgallery-kalyani.blogspot.com/2011/09/kajal-agarwal.html
TAMANNA SIRUTHAI HOT MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/siruthai-movie-stills.html
SNEHA HOT GOA MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/goa-movie-stills.html

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http://allyouwants.blogspot.com/

FOR ONLY HOT GUYS SEE THIS
AMISHA PATEL LATEST HOT BIKINI STILLS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TRISHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/trisha-hot.html
CHARMI LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/charmi-hot.html
PRIYAMANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/priyamani-hot.html
KAJAL AGARWAL LATEST HOT WITHOUT TOP
http://hotactress-kalyani.blogspot.com/2011/08/kajal-agarwal-hot-photos.html
SAMANTHA LATEST HOT STILLS

http://hotactress-kalyani.blogspot.com/2011/09/samantha-hot.html
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http://hotactress-kalyani.blogspot.com/2011/10/hansika-motwani-hot.html
PRANITHA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/pranitha-hot.html
HOT KATRINAKAIF WALLPAPERS
http://hotactress-kalyani.blogspot.com/2011/08/katrina-kaif-hot.html
HOT MALLU ACTRESS BHAMA
http://hotactress-kalyani.blogspot.com/2011/09/bhama-hot.html
TOLLYWOOD HOT ACTRESSES
http://hotactress-kalyani.blogspot.com/2011/08/hot-actrsess.html
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http://hotactress-kalyani.blogspot.com/2011/09/sonakshi-sinha-hot.html
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http://hotactress-kalyani.blogspot.com/2011/08/priyanka-chopra-hot.html
LATEST AMISHA PATEL HOT PICS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TAPSEE DIFFERENT STILLS
http://hotactress-kalyani.blogspot.com/2011/08/tapsee-hot.html
TAMANNA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/tamanna-hot.html

2677. HOT 2 HOT SEXY BEST VIDEOS PHOTOS TOOOO U

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-13 01:59:47 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <d463c2b8-4bb1-45d6-9610-7b8e218a5fad@s35g2000pra.googlegroups.com>
Source record: 3378

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http://videos2youth.blogspot.com/2011/11/real-kiss-videos.html
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indian hot photos
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http://allinterviewsquestions.blogspot.com/2009/02/hardware-interview-questions.html
SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html
dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2678. Re: Auto tuner matching range

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-13 17:16:39 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <j9ou1o$5bd$1@dont-email.me>
Source record: 3379

"Owen Duffy" <none@no.where> wrote in message
news:Xns9F9BAF347F6D2nonenowhere@88.198.244.100...
> "Wayne" <mygarbagecan@verizon.net> wrote in
> news:j9k9blemr1@dont-email.me:
>
>> I have an auto tuner whose specs for the output are:
>> "10 to 250 ohms"
>> Does that have any useful information other than perhaps the R part of
>> R+j.
>>
>
> It shows that the author of the specs doesn't understand impedance which
> is two dimensional (real and imaginary part), and he is appealing to
> those hams (probably the majority) who think that the magnitude of Z
> (which is a scalar quantity like they have used) will win the sale.
>
> If we read it litterally, they have given they have writen impedances
> with a real part and zero for the imaginary part. The equivalent VSWR
> (50) is 5:1 (funny that). It is not a very wide range tuner for those
> purely resistive loads.
>
> That said, the information doesn't help much in selecting the tuner
> because you will almost always use it with a load where X is not only
> not zero, but quite likely much greater than the R component.
>
> It is BS technospeak for a dumbed down pseudo tecnical buyer.
>
> Owen
-
Thanks to all the responders. I assumed that the spec was to indicate a
general ability to match 5:1, but as Owen said, a dumbed down spec.

Anyway, it is an older Yaesu tuner with a lot of flexibility. I've used it
for years, but am currently considering some different antennas.

2679. Updated List 2012 Solutions Manuals, Instructor Manuals & Test Banks Collection. Largest Collection Over The Net !!!

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-14 08:08:43 UTC
From: tb work <tbwork.ads005@gmail.com>
Message-ID: <29e6b1f3-a415-4fcb-abe5-15b8c35e4daf@cc2g2000vbb.googlegroups.com>
Source record: 3380

Hello,

We would like to inform you that we have updated our list with the following new titles.

You can contact us directly at tbwork.ads(at)gmail.com .

==========

2011 Federal Taxation, 5th Edition 2011, Pratt, Kulsrud, Instructor Manual & Solutions Manual

2011 Federal Taxation, 5th Edition 2011, Pratt, Kulsrud, Test Bank

A Concise Introduction to Logic, 11th Edition 2012, Hurley, Test Bank

A History of Modern Psychology, 10th Edition 2012, Schultz, Schultz, Instructor Manual

A History of Modern Psychology, 10th Edition 2012, Schultz, Schultz, Test Bank

A History of Modern Psychology, 9th Edition, Schultz, Schultz, Test Bank

Abnormal Psychology: An Integrative Approach, 6th Edition 2012, Barlow, Durand, Instructor Manual

Abnormal Psychology: An Integrative Approach, 6th Edition 2012, Barlow, Durand, Test Bank

Accounting Information Systems, 7th Edition, James Hall, Solutions Manual

Accounting Using Excelr for Success, 2nd Edition 2012, Reeve, Warren, Duchac, Solutions Manual

Accounting, 24th Edition 2012, Warren, Reeve, Duchac, Instructor Manual & Solutions Manual

Accounting, 24th Edition 2012, Warren, Reeve, Duchac, Test Bank

Adober Photoshopr CS5 Revealed, 1st Edition 2011, Elizabeth Eisner Reding, Instructor Manual & Solutions Manual

Adober Photoshopr CS5 Revealed, 1st Edition 2011, Elizabeth Eisner Reding, Test Bank

Advertising and Integrated Brand Promotion, 6th Edition 2012, O'Guinn, Allen, Semenik, Instructor Manual

Advertising and Integrated Brand Promotion, 6th Edition 2012, O'Guinn, Allen, Semenik, Test Bank

American Constitutional Law: Sources of Power and Restraint, Volume I, 5th Edition 2012, Stephens, Scheb, Instructor Manual

American Government and Politics Today 2011-2012 Edition, 15th Edition 2012, Schmidt, Shelley, Barbara, Bardes, Ford, Test Bank

American Government and Politics Today: Essentials 2011 - 2012 Edition, 16th Edition 2012, Bardes, Shelley, Schmidt, Instructor Manual

American Government and Politics Today, Texas Edition, 2009-2010, 14th Edition, Schmidt, Shelley, Bardes, Maxwell, Crain, Santos, Test Bank

American Government and Politics Today, Texas Edition, 2011-2012, 15th Edition 2012, Schmidt, Shelley, Bardes, Ford, Maxwell, Crain, Santos, Test Bank

American Public Policy: An Introduction, 10th Edition 2012, Cochran, Mayer, Cayer, McKenzie, Peck, Instructor Manual

American Public Policy: An Introduction, 10th Edition 2012, Cochran, Mayer, Cayer, McKenzie, Peck, Test Bank

An Invitation to Health: Choosing to Change, Brief Edition, 7th Edition 2012, Dianne Hales, Instructor Manual

An Invitation to Health: Choosing to Change, Brief Edition, 7th Edition 2012, Dianne Hales, Test Bank

Applied Business Ethics: A Skills-Based Approach, 1st Edition 2012, Dean Bredeson, Instructor Manual

Applied Statistics for Public and Nonprofit Administration, 8th Edition 2012, Meier, Brudney, Bohte, Instructor Manual

Applying Career Development Theory to Counseling, 5th Edition, Sharf, Instructor Manual

Applying Career Development Theory to Counseling, 5th Edition, Sharf, Test Bank

Basic Finance: An Introduction to Financial Institutions, Investments and Management, 10th Edition 2012, Mayo, Instructor Manual

Basic Finance: An Introduction to Financial Institutions, Investments and Management, 10th Edition 2012, Mayo, Test Bank

BCOM, 3rd Edition 2012, Lehman, DuFrene, Instructor Manual & Solutions Manual

BCOM, 3rd Edition 2012, Lehman, DuFrene, Test Bank

Becoming a Critical Thinker, 7th Edition 2012, Vincent Ryan Ruggiero, Instructor Manual

Brief Principles of Macroeconomics, 6th Edition 2012, Gregory Mankiw, Instructor Manual

Brief Principles of Macroeconomics, 6th Edition 2012, Gregory Mankiw, Test Bank

Business Ethics: Case Studies and Selected Readings, 7th Edition 2012, Jennings, Instructor Manual

Business Ethics: Case Studies and Selected Readings, 7th Edition 2012, Jennings, Test Bank

Business Law Today: Comprehensive, 9th Edition 2012, Miller, Jentz, Instructor Manual & Solutions Manual

Business Law Today: Comprehensive, 9th Edition 2012, Miller, Jentz, Test Bank

Business Law: Text and Cases: Legal, Ethical, Global, and Corporate Environment, 12th Edition 2012, Clarkson, Miller, Cross, Instructor Manual & Solutions Manual

Business Law: Text and Cases: Legal, Ethical, Global, and Corporate Environment, 12th Edition 2012, Clarkson, Miller, Cross, Test Bank

Business Math Using Excelr, 2nd Edition 2012, Burton, Shelton, Test Bank

Business, 11th Edition 2012, Pride, Hughes, Kapoor, Instructor Manual

Business, 11th Edition 2012, Pride, Hughes, Kapoor, Test Bank

Business: Its Legal, Ethical, and Global Environment, 9th Edition 2012, Jennings, Instructor Manual

Business: Its Legal, Ethical, and Global Environment, 9th Edition 2012, Jennings, Test Bank

BUSN 4, 4th Edition 2012, Kelly, McGowen, Instructor Manual & Solutions Manual

BUSN 4, 4th Edition 2012, Kelly, McGowen, Test Bank

C# Programming: From Problem Analysis to Program Design, 3rd Edition 2011, Barbara Doyle, Test Bank

Career Counseling: A Holistic Approach, 7th Edition, Zunker, Instructor Manual

Career Counseling: A Holistic Approach, 7th Edition, Zunker, Test Bank

Career Counseling: A Holistic Approach, 8th Edition 2012, Zunker, Instructor Manual

Career Counseling: A Holistic Approach, 8th Edition 2012, Zunker, Test Bank

Caring for School-Age Children, 6th Edition 2012, Click, Parker, Instructor Manual

CB3, 3rd Edition 2012, Babin, Harris, Instructor Manual

CB3, 3rd Edition 2012, Babin, Harris, Test Bank

CDN ED Principles of Macroeconomics, 5th Edition 2011, Mankiw, Kneebone, McKenzie, Instructor Manual

CDN ED Principles of Macroeconomics, 5th Edition 2011, Mankiw, Kneebone, McKenzie, Test Bank

CDN ED Sociology in Our Times: The Essentials, 5th Edition, Murray, Linden, Kendall, Test Bank

Cengage Advantage Books: Analyzing Politics, 5th Edition 2012, Ellen Grigsby, Instructor Manual

Cengage Advantage Books: Analyzing Politics, 5th Edition 2012, Ellen Grigsby, Test Bank

Cengage Advantage Books: Culture Counts: A Concise Introduction to Cultural Anthropology, 2nd Edition 2012, Nanda, Warms, Instructor Manual

Cengage Advantage Books: Culture Counts: A Concise Introduction to Cultural Anthropology, 2nd Edition 2012, Nanda, Warms, Test Bank

Cengage Advantage Books: Essentials of Business Law, 4th Edition 2012, Beatty, Samuelson, Instructor Manual

Cengage Advantage Books: Essentials of Business Law, 4th Edition 2012, Beatty, Samuelson, Test Bank

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South-Western Federal Taxation 2012: Corporations, Partnerships, Estates and Trusts, 35th Edition 2012, Hoffman, Raabe, Smith, Maloney, Instructor Manual & Solutions Manual

South-Western Federal Taxation 2012: Corporations, Partnerships, Estates and Trusts, 35th Edition 2012, Hoffman, Raabe, Smith, Maloney, Test Bank

South-Western Federal Taxation 2012: Individual Income Taxes, 35th Edition 2012, Hoffman, Smith, Instructor Manual & Solutions Manual

South-Western Federal Taxation 2012: Individual Income Taxes, 35th Edition 2012, Hoffman, Smith, Test Bank

Statistics for Management and Economics, 9th Edition 2012, Gerald Keller, Instructor Manual & Solutions Manual

Statistics for Management and Economics, 9th Edition 2012, Gerald Keller, Test Bank

Strategic Compensation in Canada, 4th Edition, Long, Instructor Manual

Strategic Compensation in Canada, 4th Edition, Long, Test Bank

Strategic International Management, International Edition, 5th Edition 2011, Parboteeah, Cullen, Instructor Manual

Strategic International Management, International Edition, 5th Edition 2011, Parboteeah, Cullen, Test Bank

Strategic Management Essentials, International Edition, 2nd Edition, Hill, Jones, Instructor Manual

Strategic Management Essentials, International Edition, 2nd Edition, Hill, Jones, Test Bank

Successful Project Management, 5th Edition 2012, Gido, Clements, Instructor Manual

Successful Project Management, 5th Edition 2012, Gido, Clements, Test Bank

Successful Service Operations Management, 2nd Edition, Metters, King-Metters, Pullman, Walton, Instructor Manual

Successful Service Operations Management, 2nd Edition, Metters, King-Metters, Pullman, Walton, Test Bank

Systems Analysis and Design, 9th Edition 2012, Shelly, Rosenblatt, Instructor Manual & Solutions Manual

Systems Analysis and Design, 9th Edition 2012, Shelly, Rosenblatt, Test Bank

The American System of Criminal Justice, 12th Edition, Cole, Smith, Instructor Manual

The American System of Criminal Justice, 12th Edition, Cole, Smith, Test Bank

The Brief American Pageant: A History of the Republic, 8th Edition 2012, Kennedy, Cohen, Piehl, Test Bank

The Challenge of Effective Speaking, 15th Edition 2012, Verderber, Verderber, Sellnow, Instructor Manual

The Changing Earth: Exploring Geology and Evolution, 5th Edition, Monroe, Wicander, Instructor Manual

The Changing Earth: Exploring Geology and Evolution, 5th Edition, Monroe, Wicander, Test Bank

The Essential World History, 6th Edition 2011, Duiker, Spielvogel, Instructor Manual

The Essential World History, 6th Edition 2011, Duiker, Spielvogel, Test Bank

The Exceptional Child: Inclusion in Early Childhood Education, 7th Edition 2012, Allen, Cowdery, Instructor Manual

The Exceptional Child: Inclusion in Early Childhood Education, 7th Edition 2012, Allen, Cowdery, Test Bank

The Legal Environment of Business, 11th Edition 2012, Meiners, Ringleb, Edwards, Instructor Manual

The Legal Environment of Business, 11th Edition 2012, Meiners, Ringleb, Edwards, Test Bank

The Legal Environment of Business: Text and Cases: Ethical, Regulatory, Global, and Corporate Issues, 8th Edition 2012, Cross, Miller, Instructor Manual & Solutions Manual

The Legal Environment of Business: Text and Cases: Ethical, Regulatory, Global, and Corporate Issues, 8th Edition 2012, Cross, Miller, Test Bank

The Management of Technology and Innovation: A Strategic Approach, 2nd Edition 2011, White, Bruton, Instructor Manual

The Management of Technology and Innovation: A Strategic Approach, 2nd Edition 2011, White, Bruton, Test Bank

The Promise and Performance of American Democracy, 10th Edition 2012, Bond, Smith, Instructor Manual

The Science and Engineering of Materials, 6th Edition 2011, Askeland, Fulay, Wright, Solutions Manual

The Web Warrior Guide to Web Design Technologies, 1st Edition, Gosselin, Sklar, Slaybaugh, Guthrie, Soe, Lopez, Instructor Manual & Solutions Manual

The Web Warrior Guide to Web Design Technologies, 1st Edition, Gosselin, Sklar, Slaybaugh, Guthrie, Soe, Lopez, Test Bank

Theory and Practice of Group Counseling, 7th Edition, Gerald Corey, Instructor Manual

Theory and Practice of Group Counseling, 7th Edition, Gerald Corey, Test Bank

Theory and Practice of Group Counseling, 8th Edition 2012, Gerald Corey, Instructor Manual

Theory and Practice of Group Counseling, 8th Edition 2012, Gerald Corey, Test Bank

Transportation: A Supply Chain Perspective, 7th Edition 2011, Coyle, Novack, Gibson, Bardi, Instructor Manual

Transportation: A Supply Chain Perspective, 7th Edition 2011, Coyle, Novack, Gibson, Bardi, Test Bank

Traversing Philosophical Boundaries, 4th Edition 2012, Hallman, Instructor Manual

Understanding American Government, 13th Edition 2012, Welch, Gruhl, Rigdon, Thomas, Instructor Manual

Understanding American Government, 13th Edition 2012, Welch, Gruhl, Rigdon, Thomas, Test Bank

Using Excel & Access for Accounting 2010, 3rd Edition 2012, Glenn Owen, Instructor Manual

Using Peachtree Complete 2011 for Accounting, 5th Edition 2012, Glenn Owen, Instructor Manual

Visual Communication: Images with Messages, 4th Edition, Lester, Test Bank

=========

Contact Us At :
tbwork.ads(at)gmail.com .

2680. Re: get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-14 11:44:58 UTC
From: "tholen@antispam.ham" <tholen@ifa.hawaii.edu>
Message-ID: <99658ee1-3a55-4644-b3bb-44d532b90fcd@m13g2000prl.googlegroups.com>
Source record: 3381
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,comp.os.os2.advocacy

"%" <persent@gmail.com> writes:

215> Newsgroups:
rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.shortwave,co
mp.os.os2.advocacy

215> Message-ID: <5I6dnebIo4Vwuy7TnZ2dnUVZ_g6dnZ2d@giganews.com>

What does your empty response to kb9rqz have to do with
rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.amateur.policy,
rec.radio.shortwave,comp.os.os2.advocacy, persent?

216> Newsgroups:
rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,alt.slack,comp.os.os2.advocacy

216> kelp

What does your response to kb9rqz have to do with rec.radio.cb,
alt.usenet.kooks,rec.radio.amateur.policy,alt.slack,comp.os.os2.advocacy,
persent?

2681. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-14 19:29:18 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j9rq6e$nv0$1@news.jpl.nasa.gov>
Source record: 3382

On 11/7/2011 1:14 AM, Szczepan Bialek wrote:
> "The first observations of cosmic radio emission were made by the American
> engineer Karl G. Jansky in 1932, while studying thunderstorm radio
> disturbances at a frequency of 20.5 MHz (14.6 m). He discovered radio
> emission of unknown origin, which varied within a 24-hour period. Later he
> identified the source of this radiation to be in the direction of the centre
> of our Galaxy. From: http://encyclozine.com/science/astronomy/radio
>
> I understand that the frequency "varied within a 24-hour period". It is the
> "diurnal effect".
> And what about the 365 days period (annual effect)?
> S*
>
>

You mean when earth is generally heading "towards" the galactic center vs when earth is heading "away" from the galactic center?

People doing deep space navigation deal with this all the time, since navigation is done by measuring the frequency of the received signal from the spacecraft. There's nothing special about it. spacecraft on some heliocentric trajectory, Earth on a different heliocentric trajectory. Measure frequency shift, they use to determine spacecraft trajectory by applying (mostly) Newtonian physics (you do have to use relativistic corrections to get the last gnat's eyelash of precision).

Since you only get to measure in one direction, you have to make assumptions about what's going on in the other directions, (e.g. cross range), which can lead to disasters (Mars Climate Orbiter, most recently).

You can do various forms of VLBI and DeltaDOR to get some cross range information, but nothing as good as what you're getting for range (where velocity and range are measured to mm/s and cm sorts of accuracy)

2682. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-15 08:56:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ec22914$0$2183$65785112@news.neostrada.pl>
Source record: 3383

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:j9rq6e$nv0$1@news.jpl.nasa.gov...
> On 11/7/2011 1:14 AM, Szczepan Bialek wrote:
>> "The first observations of cosmic radio emission were made by the
>> American
>> engineer Karl G. Jansky in 1932, while studying thunderstorm radio
>> disturbances at a frequency of 20.5 MHz (14.6 m). He discovered radio
>> emission of unknown origin, which varied within a 24-hour period. Later
>> he
>> identified the source of this radiation to be in the direction of the
>> centre
>> of our Galaxy. From: http://encyclozine.com/science/astronomy/radio
>>
>> I understand that the frequency "varied within a 24-hour period". It is
>> the
>> "diurnal effect".
>> And what about the 365 days period (annual effect)?
>> S*
>>
>>
>
> You mean when earth is generally heading "towards" the galactic center vs
> when earth is heading "away" from the galactic center?

Yes. But on the Earth orbit are places when this speed is 0.5 km/s (only
rotation) or 30 km/s. (orbital speed).
>
> People doing deep space navigation deal with this all the time, since
> navigation is done by measuring the frequency of the received signal from
> the spacecraft. There's nothing special about it. spacecraft on some
> heliocentric trajectory, Earth on a different heliocentric trajectory.

Like the Earth and Mars.

>Measure frequency shift, they use to determine spacecraft trajectory by
>applying (mostly) Newtonian physics (you do have to use relativistic
>corrections to get the last gnat's eyelash of precision).

They confirm the diurnal changings in the frequency. But what with the
annual?
>
> Since you only get to measure in one direction, you have to make
> assumptions about what's going on in the other directions, (e.g. cross
> range), which can lead to disasters (Mars Climate Orbiter, most recently).
>

> You can do various forms of VLBI and DeltaDOR to get some cross range
> information, but nothing as good as what you're getting for range (where
> velocity and range are measured to mm/s and cm sorts of accuracy)

Naw are the spacecraft at distances almost like stars. They are not on
heliocentric trajectory.

So I repeat my question:
" I have found the link:
http://chaos.swarthmore.edu/courses/Physics130_2008/Pioneer_Anomaly.pdf

""It is also possible to infer the position in the sky of a
spacecraft from the Doppler data. This is accomplished by

examining the diurnal variation imparted to the Doppler shift

by the Earth's rotation. As the ground station rotates underneath

a spacecraft, the Doppler shift is modulated by a sinusoid."

Here they confirm the diurnal variation in the frequency.

Probably in this paper is also the answer for my question: "And what about
the 365 days period (annual variation in the frequency)?
Unfortunately I am not an expert in radio. Do you know the answer?

S*

2683. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-15 18:04:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <j9u9k1$9vi$1@news.jpl.nasa.gov>
Source record: 3384

On 11/15/2011 12:56 AM, Szczepan Bialek wrote:
> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> n
>>
>> You mean when earth is generally heading "towards" the galactic center vs
>> when earth is heading "away" from the galactic center?
>
> Yes. But on the Earth orbit are places when this speed is 0.5 km/s (only
> rotation) or 30 km/s. (orbital speed).
>>
>> People doing deep space navigation deal with this all the time, since
>> navigation is done by measuring the frequency of the received signal from
>> the spacecraft. There's nothing special about it. spacecraft on some
>> heliocentric trajectory, Earth on a different heliocentric trajectory.
>
> Like the Earth and Mars.

Yes, and, for instance, they measure the Doppler shift in the signals radiated from spacecraft/rovers in orbit/on the surface of Mars as they arrive at earth.

As expected, the Doppler has several components: one from the rotation of Earth, one from the rotation of Mars (for a surface asset), and one from the relative motion of Mars and Earth (which is periodic with about a 2 year, 2 month period)

No surprises, nothing unusual. In fact, *tiny* variations in the Doppler are used to compute the orbit around planets, and from that, infer the internal structure of the planet. Juno is going to Jupiter right now to do this, and the Doppler will be measured with a precision of about 1 part in 1E15 (measured over 100-1000 seconds).

>
>> Measure frequency shift, they use to determine spacecraft trajectory by
>> applying (mostly) Newtonian physics (you do have to use relativistic
>> corrections to get the last gnat's eyelash of precision).
>
> They confirm the diurnal changings in the frequency. But what with the
> annual?

All changes in frequency, of course. Load up the SPICE kernels, run the numerical integration, and the expected frequency pops out.

>>
>> Since you only get to measure in one direction, you have to make
>> assumptions about what's going on in the other directions, (e.g. cross

>> range), which can lead to disasters (Mars Climate Orbiter, most recently).
>>
>> You can do various forms of VLBI and DeltaDOR to get some cross range
>> information, but nothing as good as what you're getting for range (where
>> velocity and range are measured to mm/s and cm sorts of accuracy)
>
> Naw are the spacecraft at distances almost like stars. They are not on
> heliocentric trajectory.

All spacecraft that humans have launched are on some form of either
planetary centric or heliocentric trajectory or a combination of both.
In any case, they are computable (viz. Gauss) and measureable.

>
> So I repeat my question:
> " I have found the link:
> http://chaos.swarthmore.edu/courses/Physics130_2008/Pioneer_Anomaly.pdf
>
> ""It is also possible to infer the position in the sky of a
> spacecraft from the Doppler data. This is accomplished by
>
> examining the diurnal variation imparted to the Doppler shift
>
> by the Earth's rotation. As the ground station rotates underneath
>
> a spacecraft, the Doppler shift is modulated by a sinusoid."

That's somewhat of an over simplification, but it's essentially true.

The paper describes the technique used to measure the frequency.. A
signal is generated on the ground at 2.11 GHz, locked to a hydrogen
maser. that signal is radiated to the spacecraft, which uses a phase
locked loop to track it. The spacecraft sends back a signal with a
frequency/phase ratio of exactly 240/221 (i.e. about 2.29 GHz) which is
received on earth and compared with the same hydrogen maser.

>
> Here they confirm the diurnal variation in the frequency.
>
> Probably in this paper is also the answer for my question: "And what about
> the 365 days period (annual variation in the frequency)?
> Unfortunately I am not an expert in radio. Do you know the answer?

Do you want to know the magnitude of the shift? Earth's orbital velocity
is about 30km/s, so the fractional frequency change is 1 part in 1E4
(100ppm). That's huge compared to, for example, the change due to the
oscillator frequency aging. Considering that for deep space navigation,
frequencies are regularly measured these days to parts in 1E12, this is
something they deal with on a day to day basis at the Deep Space Network.

if you want more details, take a look at equations (3) through (6) on
page 11-12 of the 50 page paper you cited, which gives a nice detailed

explanation of all the factors they are taking into account. And, they nicely note how you can use the models to implement theories of gravity other than general relativity.

equation 4 describes the light time (which ties to doppler measurement) and includes the relativistic corrections as well.

they take into account things you haven't mentioned such as changes in the earth orientation (precession, for instance), changes in earth rotation rate.

"In summary, this dynamical model accounts for a number of post-Newtonian perturbations in the motions of the planets, the Moon, and spacecraft. Light propagation is correct to order c^-2. The equations of motion of extended celestial bodies are valid to order c^-4. Indeed, this dynamical model has been good enough to perform tests of general relativity @28,51,52#."

I'd comment that if you read and understand the entire paper, you're well on your way to really knowing how we do deep space navigation and the myriad things that have an effect and must be taken into account. They also have a VERY complete discussion of numerical computation effects.

They also do mention an annual sinusoid (not accounted for by simple orbital motion) of 1.6E-8 cm/s^2... (about 0.012 Hz at 2.29GHz) (page 37) which they attribute to small problems in their modeling of the solar system that are normally masked by other noise sources, but because Pioneer makes such a good detector, you can find it.

I'll note that the anomaly identified in the paper has since been analyzed extensively, and as I recall, once you take into account the thermal radiation pressure with sufficient accuracy, you can account for it.

(there has been a substantial improvement in computational and modeling capability in the last 10 years, since that paper was published) After all, the paper says "Further experiment and analysis is obviously needed to resolve this problem."

2684. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-16 18:57:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ec40790$0$5813$65785112@news.neostrada.pl>
Source record: 3385

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:j9u9k1$9vi$1@news.jpl.nasa.gov...
> On 11/15/2011 12:56 AM, Szczepan Bialek wrote:
>> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>> n
>>>
>>> You mean when earth is generally heading "towards" the galactic center
>>> vs
>>> when earth is heading "away" from the galactic center?
>>
>> Yes. But on the Earth orbit are places when this speed is 0.5 km/s (only
>> rotation) or 30 km/s. (orbital speed).
>>>
>>> People doing deep space navigation deal with this all the time, since
>>> navigation is done by measuring the frequency of the received signal
>>> from
>>> the spacecraft. There's nothing special about it. spacecraft on some
>>> heliocentric trajectory, Earth on a different heliocentric trajectory.
>>
>> Like the Earth and Mars.
>
> Yes, and, for instance, they measure the Doppler shift in the signals
> radiated from spacecraft/rovers in orbit/on the surface of Mars as they
> arrive at earth.

Do they published the results?
>
> As expected, the Doppler has several components: one from the rotation of
> Earth, one from the rotation of Mars (for a surface asset), and one from
> the relative motion of Mars and Earth (which is periodic with about a 2
> year, 2 month period)

I am asking about "one from the relative motion of Mars and Earth "
>
> No surprises, nothing unusual. In fact, *tiny* variations in the Doppler
> are used to compute the orbit around planets, and from that, infer the
> internal structure of the planet. Juno is going to Jupiter right now to do
> this, and the Doppler will be measured with a precision of about 1 part in
> 1E15 (measured over 100-1000 seconds).
>
>>
>>> Measure frequency shift, they use to determine spacecraft trajectory by
>>> applying (mostly) Newtonian physics (you do have to use relativistic
>>> corrections to get the last gnat's eyelash of precision).
>>

>> They confirm the diurnal changings in the frequency. But what with the
>> annual?
>
> All changes in frequency, of course. Load up the SPICE kernels, run the
> numerical integration, and the expected frequency pops out.

I am interested only in the measured results.
>
>>> Since you only get to measure in one direction, you have to make
>>> assumptions about what's going on in the other directions, (e.g. cross
>>> range), which can lead to disasters (Mars Climate Orbiter, most
>>> recently).
>>>
>>> You can do various forms of VLBI and DeltaDOR to get some cross range
>>> information, but nothing as good as what you're getting for range (where
>>> velocity and range are measured to mm/s and cm sorts of accuracy)
>>
>> Naw are the spacecraft at distances almost like stars. They are not on
>> heliocentric trajectory.
>
> All spacecraft that humans have launched are on some form of either
> planetary centric or heliocentric trajectory or a combination of both. In
> any case, they are computable (viz. Gauss) and measureable.
>
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>> So I repeat my question:
>> " I have found the link:
>> http://chaos.swarthmore.edu/courses/Physics130_2008/Pioneer_Anomaly.pdf
>>
>> ""It is also possible to infer the position in the sky of a
>> spacecraft from the Doppler data. This is accomplished by
>>
>> examining the diurnal variation imparted to the Doppler shift
>>
>> by the Earth's rotation. As the ground station rotates underneath
>>
>> a spacecraft, the Doppler shift is modulated by a sinusoid."
>
>
> That's somewhat of an over simplification, but it's essentially true.
>
> The paper describes the technique used to measure the frequency.. A signal
> is generated on the ground at 2.11 GHz, locked to a hydrogen maser. that
> signal is radiated to the spacecraft, which uses a phase locked loop to
> track it. The spacecraft sends back a signal with a frequency/phase ratio
> of exactly 240/221 (i.e. about 2.29 GHz) which is received on earth and
> compared with the same hydrogen maser.
>
>>
>> Here they confirm the diurnal variation in the frequency.

>>
>> Probably in this paper is also the answer for my question: "And what
>> about
>> the 365 days period (annual variation in the frequency)?
>> Unfortunately I am not an expert in radio. Do you know the answer?
>
> Do you want to know the magnitude of the shift?

The measured value.

>Earth's orbital velocity is about 30km/s, so the fractional frequency
>change is 1 part in 1E4 (100ppm). That's huge compared to, for example,
>the change due to the oscillator frequency aging. Considering that for
>deep space navigation, frequencies are regularly measured these days to
>parts in 1E12, this is something they deal with on a day to day basis at
>the Deep Space Network.
>
>
> if you want more details, take a look at equations (3) through (6) on page
> 11-12 of the 50 page paper you cited, which gives a nice detailed
> explanation of all the factors they are taking into account. And, they
> nicely note how you can use the models to implement theories of gravity
> other than general relativity.
>
> equation 4 describes the light time (which ties to doppler measurement)
> and includes the relativistic corrections as well.
>
> they take into account things you haven't mentioned such as changes in the
> earth orientation (precession, for instance), changes in earth rotation
> rate.
>
> "In summary, this dynamical model accounts for a number
> of post-Newtonian perturbations in the motions of the planets,
> the Moon, and spacecraft. Light propagation is correct to
> order c^-2. The equations of motion of extended celestial
> bodies are valid to order c^-4. Indeed, this dynamical model
> has been good enough to perform tests of general relativity
> @28,51,52#."
>
>
>
> I'd comment that if you read and understand the entire paper, you're well
> on your way to really knowing how we do deep space navigation and the
> myriad things that have an effect and must be taken into account. They
> also have a VERY complete discussion of numerical computation effects.
>
> They also do mention an annual sinusoid (not accounted for by simple
> orbital motion) of 1.6E-8 cm/s^2... (about 0.012 Hz at 2.29GHz) (page 37)
> which they attribute to small problems in their modeling of the solar
> system that are normally masked by other noise sources, but because
> Pioneer makes such a good detector, you can find it.

They wrote (page 37): "
Fig. 17, which shows the aP residuals from a value for aP of

(7.7760.16)31028 cm/s2. The data was processed using

ODP-SIGMA with a batch-sequential filter and smoothing algorithm.

The solution for aP was obtained using 1-day batch

sizes. Also shown are the maneuver times. At early times the

annual term is largest. During Interval II, the interval of the

large spin-rate change anomaly, coherent oscillation is lost.

During Interval III the oscillation is smaller and begins to die"

I "read the entire paper" but I do not and understand if the above "During Interval III the oscillation is smaller and begins to die" means that the annual variation in frequency die when the spacecraft was very far.
>
> I'll note that the anomaly identified in the paper has since been analyzed
> extensively, and as I recall, once you take into account the thermal
> radiation pressure with sufficient accuracy, you can account for it.
>
> (there has been a substantial improvement in computational and modeling
> capability in the last 10 years, since that paper was published) After
> all, the paper says "Further experiment and analysis is obviously needed
> to resolve this problem."

I was ony trying to pick up if the annual variation in frequency take place or not.

The reason is simply. The diurnal variation are in agreement with the Michelson-Gale experiment. The annuall should be null like the famous MM.
S*

2685. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-16 20:57:40 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ja1843$o13$1@news.jpl.nasa.gov>
Source record: 3386

```
On 11/16/2011 10:57 AM, Szczepan Bialek wrote:
> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:j9u9k1$9vi$1@news.jpl.nasa.gov...
>> On 11/15/2011 12:56 AM, Szczepan Bialek wrote:
>>> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>>> n
>>>>
>>>> You mean when earth is generally heading "towards" the galactic center
>>>> vs
>>>> when earth is heading "away" from the galactic center?
>>>
>>> Yes. But on the Earth orbit are places when this speed is 0.5 km/s (only
>>> rotation) or 30 km/s. (orbital speed).
>>>>
>>>> People doing deep space navigation deal with this all the time, since
>>>> navigation is done by measuring the frequency of the received signal
>>>> from
>>>> the spacecraft. There's nothing special about it. spacecraft on some
>>>> heliocentric trajectory, Earth on a different heliocentric trajectory.
>>>
>>> Like the Earth and Mars.
>>
>> Yes, and, for instance, they measure the Doppler shift in the signals
>> radiated from spacecraft/rovers in orbit/on the surface of Mars as they
>> arrive at earth.
>
> Do they published the results?

Sure..
Some are in that paper you cited.

>>
>> As expected, the Doppler has several components: one from the rotation of
>> Earth, one from the rotation of Mars (for a surface asset), and one from
>> the relative motion of Mars and Earth (which is periodic with about a 2
>> year, 2 month period)
>
> I am asking about "one from the relative motion of Mars and Earth "

I imagine so, although I don't know where one get the data off hand.
But they archive and publish pretty much everything that comes down
along with all the radiometric data (doppler, phase, signal strength) in
various and sundry mission data repositories. getting it in a
convenient translated form might take some work.
```

>>
>> No surprises, nothing unusual. In fact, *tiny* variations in the Doppler
>> are used to compute the orbit around planets, and from that, infer the
>> internal structure of the planet. Juno is going to Jupiter right now to do
>> this, and the Doppler will be measured with a precision of about 1 part in
>> 1E15 (measured over 100-1000 seconds).
>>
>>>
>>>> Measure frequency shift, they use to determine spacecraft trajectory by
>>>> applying (mostly) Newtonian physics (you do have to use relativistic
>>>> corrections to get the last gnat's eyelash of precision).
>>>
>>> They confirm the diurnal changings in the frequency. But what with the
>>> annual?
>>
>> All changes in frequency, of course. Load up the SPICE kernels, run the
>> numerical integration, and the expected frequency pops out.
>
> I am interested only in the measured results.

Look for what's called Level 0 telemetry data from your missions of choice.

>>>
>>> Here they confirm the diurnal variation in the frequency.
>>>
>>> Probably in this paper is also the answer for my question: "And what
>>> about
>>> the 365 days period (annual variation in the frequency)?
>>> Unfortunately I am not an expert in radio. Do you know the answer?
>>
>> Do you want to know the magnitude of the shift?
>
> The measured value.
>

> They wrote (page 37): "
> Fig. 17, which shows the aP residuals from a value for aP of
>
> (7.7760.16)31028 cm/s2. The data was processed using
>
> ODP-SIGMA with a batch-sequential filter and smoothing algorithm.
>
> The solution for aP was obtained using 1-day batch
>
> sizes. Also shown are the maneuver times. At early times the
>
> annual term is largest. During Interval II, the interval of the
>
> large spin-rate change anomaly, coherent oscillation is lost.
>
> During Interval III the oscillation is smaller and begins to die"
>

> I "read the entire paper" but I do not and understand if the above "During
> Interval III the oscillation is smaller and begins to die" means that the
> annual variation in frequency die when the spacecraft was very far.
>>

Dunno..

>
> I was ony trying to pick up if the annual variation in frequency take place
> or not.

The "anomaly" variation or the "variation due to earth in its orbit"? I
suppose the answer to both is "yes"

>
> The reason is simply. The diurnal variation are in agreement with the
> Michelson-Gale experiment. The annuall should be null like the famous MM.

If you need raw data, you'll need to look for it. I'd suggest starting
with the Planetary Data System http://pds.jpl.nasa.gov/

Maybe the stuff at NAIF (Navigation and Ancillary Information Facility)
might help.

There's a lot of stuff out there, but, for instance, I ran across the
raw Radio Occultation Original Data Records from Ulysses. It has a
description including: "These data are
obtained from the Radio Science Support group at JPL. They consist
of time-ordered, high-time resolution Doppler data from special
radio science receivers (so-called 'open loop' data)."

There's a lot more description online and that's probably not a data set
you're looking for, but the data is out there, if you're willing to go
digging through it. I doubt anyone is going to give you exactly what
you're looking for, though. You'll have to do some conversion, and
you'll need to know a fair amount about how all the tracking systems
work, but that's all published. You might start with the DSN 810-005
online document (google for it).. That will tell you how they record the
data and the format.

A more recent data set is from MRO
"This data set contains archival raw, partially processed, and
ancillary/supporting radio science data acquired during the Mars
Reconnaissance Orbiter (MRO) mission. The radio observations were
carried out using the MRO spacecraft and Earth-based receiving stations
of the NASA Deep Space Network (DSN). The data set was designed
primarily to support generation of high-resolution gravity field models
for Mars and secondarily for estimating density and structure of the
Mars atmosphere. Of most interest are likely to be the Orbit Data Files
and Radio Science Receiver files in the ODF and RSR directories,
respectively, which provided the raw input to gravity and atmospheric
investigations, as well as the ionospheric and tropospheric media
calibration files in the ION and TRO directories, respectively."

http://starbrite.jpl.nasa.gov/pds/viewProfile.jsp?dsid=MRO-M-RSS-1-MAGR-V1.0

Among the stuff in that particular data set is:
" The ODF is a compressed version of the TNF. It contains the most
important information (range, Doppler and frequency ramps)
needed by spacecraft investigators, and investigators interested
in determining gravity fields. Each ODF is accompanied by a full
PDS label which describes both the content and format of the
associated file. ODF data fields include:

Narrowband spacecraft VLBI, Doppler mode (cycles)
Narrowband spacecraft VLBI, phase mode (cycles)
Narrowband quasar VLBI, Doppler mode (cycles)
Narrowband quasar VLBI, phase mode (cycles)
Wideband spacecraft VLBI (nanoseconds)
Wideband quasar VLBI (nanoseconds)
One-way Doppler (Hertz)
Two-way Doppler (Hertz)
Three-way Doppler (Hertz)
One-way total count phase (cycles)
Two-way total count phase (cycles)
Three-way total count phase (cycles)
PRA planetary operational discrete spectrum range (range
units)
SRA planetary operational discrete spectrum range (range
units)
RE(GSTDN) range (nanoseconds)
Azimuth angle (degrees)
Elevation angle (degrees)
Hour angle (degrees)
Declination angle (degrees)
"

So there you have all the VLBI and doppler info you're looking for.

The actual data files are at
http://pds-geosciences.wustl.edu/mro/mro-m-rss-1-magr-v1/mrors_0xxx/
(There's a link at the PDS catalog entry)

There's documentation on the format of the ODF files, and I see that
they actually give you Doppler and range observables, rather than raw
counts, which is nice.

Knock yourself out...

2686. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-17 17:29:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ec54479$0$2182$65785112@news.neostrada.pl>
Source record: 3387

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:ja1843$o13$1@news.jpl.nasa.gov...
> On 11/16/2011 10:57 AM, Szczepan Bialek wrote:
>> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>> news:j9u9k1$9vi$1@news.jpl.nasa.gov...
>>> On 11/15/2011 12:56 AM, Szczepan Bialek wrote:
>>>> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>>>> n
>>>>
>>>>> You mean when earth is generally heading "towards" the galactic center
>>>>> vs
>>>>> when earth is heading "away" from the galactic center?
>>>>
>>>> Yes. But on the Earth orbit are places when this speed is 0.5 km/s
>>>> (only
>>>> rotation) or 30 km/s. (orbital speed).
>>>>
>>>>> People doing deep space navigation deal with this all the time, since
>>>>> navigation is done by measuring the frequency of the received signal
>>>>> from
>>>>> the spacecraft. There's nothing special about it. spacecraft on some
>>>>> heliocentric trajectory, Earth on a different heliocentric trajectory.
>>>>
>>>> Like the Earth and Mars.
>>>
>>> Yes, and, for instance, they measure the Doppler shift in the signals
>>> radiated from spacecraft/rovers in orbit/on the surface of Mars as they
>>> arrive at earth.
>>
>> Do they published the results?
>
> Sure..
> Some are in that paper you cited.
>
>>>
>>> As expected, the Doppler has several components: one from the rotation
>>> of
>>> Earth, one from the rotation of Mars (for a surface asset), and one from
>>> the relative motion of Mars and Earth (which is periodic with about a 2
>>> year, 2 month period)
>>
>> I am asking about "one from the relative motion of Mars and Earth "
>
> I imagine so, although I don't know where one get the data off hand. But

> they archive and publish pretty much everything that comes down along with
> all the radiometric data (doppler, phase, signal strength) in various and
> sundry mission data repositories. getting it in a convenient translated
> form might take some work.

I am not able to do any work in the data.
I will be waiting as somebody do it.
>
>>> No surprises, nothing unusual. In fact, *tiny* variations in the
>>> Doppler
>>> are used to compute the orbit around planets, and from that, infer the
>>> internal structure of the planet. Juno is going to Jupiter right now to
>>> do
>>> this, and the Doppler will be measured with a precision of about 1 part
>>> in
>>> 1E15 (measured over 100-1000 seconds).
>>>
>>>>
>>>>> Measure frequency shift, they use to determine spacecraft trajectory
>>>>> by
>>>>> applying (mostly) Newtonian physics (you do have to use relativistic
>>>>> corrections to get the last gnat's eyelash of precision).
>>>>
>>>> They confirm the diurnal changings in the frequency. But what with the
>>>> annual?
>>>
>>> All changes in frequency, of course. Load up the SPICE kernels, run the
>>> numerical integration, and the expected frequency pops out.
>>
>> I am interested only in the measured results.
>
>
> Look for what's called Level 0 telemetry data from your missions of
> choice.
>
>
>>>>
>>>> Here they confirm the diurnal variation in the frequency.
>>>>
>>>> Probably in this paper is also the answer for my question: "And what
>>>> about
>>>> the 365 days period (annual variation in the frequency)?
>>>> Unfortunately I am not an expert in radio. Do you know the answer?
>>>
>>> Do you want to know the magnitude of the shift?
>>
>> The measured value.
>>
>
>

>
>> They wrote (page 37): "
>> Fig. 17, which shows the aP residuals from a value for aP of
>>
>> (7.7760.16)31028 cm/s2. The data was processed using
>>
>> ODP-SIGMA with a batch-sequential filter and smoothing algorithm.
>>
>> The solution for aP was obtained using 1-day batch
>>
>> sizes. Also shown are the maneuver times. At early times the
>>
>> annual term is largest. During Interval II, the interval of the
>>
>> large spin-rate change anomaly, coherent oscillation is lost.
>>
>> During Interval III the oscillation is smaller and begins to die"
>>
>> I "read the entire paper" but I do not and understand if the above
>> "During
>> Interval III the oscillation is smaller and begins to die" means that the
>> annual variation in frequency die when the spacecraft was very far.
>>>
>
> Dunno..
>
>>
>> I was ony trying to pick up if the annual variation in frequency take
>> place
>> or not.
>
> The "anomaly" variation or the "variation due to earth in its orbit"? I
> suppose the answer to both is "yes"

But it is not clearly stated.
>
>
>>
>> The reason is simply. The diurnal variation are in agreement with the
>> Michelson-Gale experiment. The annuall should be null like the famous MM.
>
> If you need raw data, you'll need to look for it. I'd suggest starting
> with the Planetary Data System http://pds.jpl.nasa.gov/
>
> Maybe the stuff at NAIF (Navigation and Ancillary Information Facility)
> might help.
>
> There's a lot of stuff out there, but, for instance, I ran across the raw
> Radio Occultation Original Data Records from Ulysses. It has a
> description including: "These data are

> obtained from the Radio Science Support group at JPL. They consist
> of time-ordered, high-time resolution Doppler data from special
> radio science receivers (so-called 'open loop' data)."
>
> There's a lot more description online and that's probably not a data set
> you're looking for, but the data is out there, if you're willing to go
> digging through it. I doubt anyone is going to give you exactly what
> you're looking for, though.

They confirm the diurnal oscilations.
They do not mention the annual.
So I assume that the annual are null.

>You'll have to do some conversion, and
> you'll need to know a fair amount about how all the tracking systems work,
> but that's all published. You might start with the DSN 810-005 online
> document (google for it).. That will tell you how they record the data and
> the format.
>
>
> A more recent data set is from MRO
> "This data set contains archival raw, partially processed, and
> ancillary/supporting radio science data acquired during the Mars
> Reconnaissance Orbiter (MRO) mission. The radio observations were carried
> out using the MRO spacecraft and Earth-based receiving stations of the
> NASA Deep Space Network (DSN). The data set was designed primarily to
> support generation of high-resolution gravity field models for Mars and
> secondarily for estimating density and structure of the Mars atmosphere.
> Of most interest are likely to be the Orbit Data Files and Radio Science
> Receiver files in the ODF and RSR directories, respectively, which
> provided the raw input to gravity and atmospheric investigations, as well
> as the ionospheric and tropospheric media calibration files in the ION and
> TRO directories, respectively."
>
> http://starbrite.jpl.nasa.gov/pds/viewProfile.jsp?dsid=MRO-M-RSS-1-MAGR-V1.0
>
> Among the stuff in that particular data set is:
> " The ODF is a compressed version of the TNF. It contains the most
> important information (range, Doppler and frequency ramps)
> needed by spacecraft investigators, and investigators interested
> in determining gravity fields. Each ODF is accompanied by a full
> PDS label which describes both the content and format of the
> associated file. ODF data fields include:
>
> Narrowband spacecraft VLBI, Doppler mode (cycles)
> Narrowband spacecraft VLBI, phase mode (cycles)
> Narrowband quasar VLBI, Doppler mode (cycles)
> Narrowband quasar VLBI, phase mode (cycles)
> Wideband spacecraft VLBI (nanoseconds)
> Wideband quasar VLBI (nanoseconds)
> One-way Doppler (Hertz)

> Two-way Doppler (Hertz)
> Three-way Doppler (Hertz)
> One-way total count phase (cycles)
> Two-way total count phase (cycles)
> Three-way total count phase (cycles)
> PRA planetary operational discrete spectrum range (range
> units)
> SRA planetary operational discrete spectrum range (range
> units)
> RE(GSTDN) range (nanoseconds)
> Azimuth angle (degrees)
> Elevation angle (degrees)
> Hour angle (degrees)
> Declination angle (degrees)
> "
>
>
> So there you have all the VLBI and doppler info you're looking for.
>
> The actual data files are at
> http://pds-geosciences.wustl.edu/mro/mro-m-rss-1-magr-v1/mrors_0xxx/
> (There's a link at the PDS catalog entry)
>
> There's documentation on the format of the ODF files, and I see that they
> actually give you Doppler and range observables, rather than raw counts,
> which is nice.

The answer I am loking for is not important for me.
I have come accros an information that astronomers add the orbital speed of
the Earth to the radial speed of stars measured with the spectrographic
method.
The radio method are the same like the spectrography. But it contradicts
MMX. So I am trying to clear it.
S*

2687. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-17 20:15:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ja3q18$en4$1@news.jpl.nasa.gov>
Source record: 3388

On 11/17/2011 9:29 AM, Szczepan Bialek wrote:
> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>> I imagine so, although I don't know where one get the data off hand. But
>> they archive and publish pretty much everything that comes down along with
>> all the radiometric data (doppler, phase, signal strength) in various and
>> sundry mission data repositories. getting it in a convenient translated
>> form might take some work.
>
> I am not able to do any work in the data.
> I will be waiting as somebody do it.
>>

<Giant snip of places where you can find the data you asked about>

> The answer I am loking for is not important for me.
> I have come accros an information that astronomers add the orbital speed of
> the Earth to the radial speed of stars measured with the spectrographic
> method.
> The radio method are the same like the spectrography. But it contradicts
> MMX. So I am trying to clear it.

Uh.. no.. you have a theory or question, but aren't willing or able to
do the work (or find someone else to do the work) to actual resolve the
issue.

Tons of data
Tons of analysis out there

You've got a question, you need to answer it.
(or, just wait until someone else happens to answer it for you...)

2688. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 02:46:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4ec5c6fa$0$79795$8046368a@newsreader.iphouse.net>
Source record: 3389

On 11/17/2011 2:15 PM, Jim Lux wrote:

<snip nonsense from someone who has never produced anything but>

> Uh.. no.. you have a theory or question, but aren't willing or able to
> do the work (or find someone else to do the work) to actual resolve the
> issue.
>
> Tons of data
> Tons of analysis out there
>
> You've got a question, you need to answer it.
> (or, just wait until someone else happens to answer it for you...)
>
>

Nice. Succinct and to the point. Unfortunately wasted on him.

tom
K0TAR

2689. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 04:07:08 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <50323790-7600-422d-8fa6-9d1b61762775@f29g2000yqa.googlegroups.com>
Source record: 3390

SPORTS WORLD
http://sports7833.blogspot.com

List of Dogs Breeds Images and Videos
http://dogbreedspk.blogspot.com

Sports News
http://super1213.blogspot.com

Fashion Life Style
http://fashion1299.blogspot.com

2690. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 08:46:04 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ec61b53$0$5797$65785112@news.neostrada.pl>
Source record: 3391

"tom" <news4792@taring.org> napisal w wiadomosci
news:4ec5c6fa$0$79795$8046368a@newsreader.iphouse.net...
> On 11/17/2011 2:15 PM, Jim Lux wrote:
>
> <snip nonsense from someone who has never produced anything but>
>
>>
>> Uh.. no.. you have a theory or question, but aren't willing or able to
>> do the work (or find someone else to do the work) to actual resolve the
>> issue.
>>
>> Tons of data
>> Tons of analysis out there
>>
>> You've got a question, you need to answer it.
>> (or, just wait until someone else happens to answer it for you...)
>
> Nice. Succinct and to the point. Unfortunately wasted on him.

" Some people know the Doppler effects components: "the Doppler has several
components: one from the rotation of Earth, one from the rotation of Mars
(for a surface asset), and one from the relative motion of Mars and Earth"

I am looking for information about relative motion of "Mars and Earth" and
"Earth and Pioneer".
Have you such?
S*

2691. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 08:47:23 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ec61b9d$0$5807$65785112@news.neostrada.pl>
Source record: 3392

"Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:ja3q18$en4$1@news.jpl.nasa.gov...
> On 11/17/2011 9:29 AM, Szczepan Bialek wrote:
>> "Jim Lux"<james.p.lux@jpl.nasa.gov> napisal w wiadomosci
>>> I imagine so, although I don't know where one get the data off hand. But
>>> they archive and publish pretty much everything that comes down along
>>> with
>>> all the radiometric data (doppler, phase, signal strength) in various
>>> and
>>> sundry mission data repositories. getting it in a convenient translated
>>> form might take some work.
>>
>> I am not able to do any work in the data.
>> I will be waiting as somebody do it.
>
> <Giant snip of places where you can find the data you asked about>
>
>> The answer I am loking for is not important for me.
>> I have come accros an information that astronomers add the orbital speed
>> of
>> the Earth to the radial speed of stars measured with the spectrographic
>> method.
>> The radio method are the same like the spectrography. But it contradicts
>> MMX. So I am trying to clear it.
>
>
> Uh.. no.. you have a theory or question, but aren't willing or able to do
> the work (or find someone else to do the work) to actual resolve the
> issue.

Yes. I am not able.
But here is nothing to do. Some people know the Doppler effects components:
"the Doppler has several components: one from the rotation of Earth, one
from the rotation of Mars (for a surface asset), and one from the relative
motion of Mars and Earth"

I am looking for information about relative motion of "Mars and Earth" and
"Earth and Pioneer".
>
> Tons of data
> Tons of analysis out there
>
> You've got a question, you need to answer it.
> (or, just wait until someone else happens to answer it for you...)

"wait until someone else happens to answer it for you..." is the only possibility.

Sooner or later it will be in textbooks.

Now in textbooks no Michelson-Gale experiment.
S*

2692. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 09:45:41 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnjccaa5.fh7.nomail@xs8.xs4all.nl>
Source record: 3393

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>> Uh.. no.. you have a theory or question, but aren't willing or able to do
>> the work (or find someone else to do the work) to actual resolve the
>> issue.
>
> Yes. I am not able.
> But here is nothing to do. Some people know the Doppler effects components:
> "the Doppler has several components: one from the rotation of Earth, one
> from the rotation of Mars (for a surface asset), and one from the relative
> motion of Mars and Earth"
>
> I am looking for information about relative motion of "Mars and Earth" and
> "Earth and Pioneer".

You sound like the man in the street who claims that "the theory of
relativity is wrong".
But in your case you don't even refer to something as complex as
relativity but as simple as doppler shift.

There are existing formulas that allow you to calculate the doppler
shift when knowing the speed of the items, and the measured results
confirm what you calculate. So why do you keep questioning it?

When you have found an old article that does not agree with what is
measured today, why do you keep insisting that the old article is
correct and suggeest the theory is wrong, when you don't have the
capability to back that up with proofs that you present yourself?
Isn't it better to assume that the measurements in the old article were
not correct?

2693. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 17:14:08 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ec69262$0$2187$65785112@news.neostrada.pl>
Source record: 3394

"Rob" <nomail@example.com> napisal w wiadomosci
news:slrnjccaa5.fh7.nomail@xs8.xs4all.nl...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>> Uh.. no.. you have a theory or question, but aren't willing or able to
>>> do
>>> the work (or find someone else to do the work) to actual resolve the
>>> issue.
>>
>> Yes. I am not able.
>> But here is nothing to do. Some people know the Doppler effects
>> components:
>> "the Doppler has several components: one from the rotation of Earth, one
>> from the rotation of Mars (for a surface asset), and one from the
>> relative
>> motion of Mars and Earth"
>>
>> I am looking for information about relative motion of "Mars and Earth"
>> and
>> "Earth and Pioneer".
>
> You sound like the man in the street who claims that "the theory of
> relativity is wrong".
> But in your case you don't even refer to something as complex as
> relativity but as simple as doppler shift.
>
> There are existing formulas that allow you to calculate the doppler
> shift when knowing the speed of the items, and the measured results
> confirm what you calculate. So why do you keep questioning it?

It is true for the Earth rotating.
For the orbital movement of the Earth the result is null according to "the
theory of relativity".
>
> When you have found an old article that does not agree with what is
> measured today, why do you keep insisting that the old article is
> correct and suggeest the theory is wrong, when you don't have the
> capability to back that up with proofs that you present yourself?
> Isn't it better to assume that the measurements in the old article were
> not correct?

In physics textbooks the old article is correct.

Once more: "Today's spectrograph astronomers assume that the effect is not
null.

It seems to me that today's astronomers are wrong because in physics are
still null result.
So I am looking for the result from communication with the spacecraft."

I should wrote: "Some astronomers ASSUME..."

To be precise now are available the spectrograph with built-in the
corrections for the all movements of the Earth and Sun.
But user can switch off same of them.
It seems to me that at measurements of the radial speeds of stars the
correction for the orbital speed of the Earth should be switched-off.

What is your opinion?
S*

2694. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 17:16:19 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnjcd4n3.6h9.nomail@xs8.xs4all.nl>
Source record: 3395

Szczepan Bialek <sz.bialek@wp.pl> wrote:
> What is your opinion?
> S*

You don't want to hear that. It would hurt your ego.

2695. Re: Radio Astronomy

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 17:57:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ec69c78$0$2184$65785112@news.neostrada.pl>
Source record: 3396

"Rob" <nomail@example.com> napisal w wiadomosci
news:slrnjcd4n3.6h9.nomail@xs8.xs4all.nl...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>> What is your opinion?
>> S*
>
> You don't want to hear that. It would hurt your ego.

Not the case.

In 1905 Einstein wrote: "Examples of a similar kind, as well as the
unsuccessful attempts to substantiate the motion of the earth relative to
the "light-medium", ..."

It is still valid. One of the attempts was famous MM.

In 1925 Michelson-Gale "substantiate the motion of the earth ROTATION
relative to the "light-medium". It is in agreement with SR. (Like Sagnac).

But things are changing. May be that the attempts with using the radio waves
supply the opposite results. But I do not come across on such.
So I am asking the radio experts.
S*

2696. Re: Winding an Unun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-18 20:18:01 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <ja6ehutpi1@dont-email.me>
Source record: 3397

On 11/18/2011 2:03 PM, Jim Higgins wrote:
>
> A question - when winding a triflar unun on a toroid, typical pictures
> show the leads on one end numbered 1, 3, 5 in that order with other
> end being 2, 4, 6. Is there any reason they can't be in the order 1,
> 5, 3? (Other end would be 2, 6, 4?)

No.

73,
John KD5YI

2697. see this useful information

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-21 11:30:26 UTC
From: katrina <sophygrace1@gmail.com>
Message-ID: <005815ed-30d9-48e4-aeb8-30de40fd8f34@g20g2000prb.googlegroups.com>
Source record: 3398

http://123maza.com/48/cloud408/

2698. Congratulation, U Want Earn Money...For More Details Just View this Link...

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-21 14:13:42 UTC
From: Vinay <ramhpkumar@gmail.com>
Message-ID: <9043126.1476.1321884822471.JavaMail.geo-discussion-forums@prlm15>
Source record: 3399

http://123maza.com/48/rain350/

2699. http://123maza.com/48/care462/

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-22 09:34:46 UTC
From: chithra cm <cchithra43@gmail.com>
Message-ID: <99df7cee-884d-49f5-a952-f31e64c6a5b1@h31g2000pro.googlegroups.com>
Source record: 3400

http://123maza.com/48/care462/

2700. JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-23 14:37:05 UTC
From: Jayson <jaysond551@aol.net>
Message-ID: <jaj0eh$u4e$1@dont-email.me>
Source record: 3301

I recently came across some JB Weld Waterweld and Loctite repair putty. I have used this two part hand moldable epoxy for various indoor projects and have met with success on a number of occasions. I am now preparing to erect a dipole and I am wondering how well this epoxy would work for the center/ end insulators? My main concerns are UV, weathering and of course longitudinal strength. Anyone have experiences/ recommendations they can share?

Thank you.

2701. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-23 15:24:08 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <jaj36p$g3f$1@dont-email.me>
Source record: 3302

On 11/23/2011 8:37 AM, Jayson wrote:
> I recently came across some JB Weld Waterweld and Loctite repair putty.

I'm not familiar with these specific products, but I know
from experience the standard JB Weld is conductive. Not a
good choice for repairing insulated parts.

Jeff

--
"Everything from Crackers to Coffins"

2702. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-23 15:46:56 UTC
From: Jayson <jaysond551@aol.net>
Message-ID: <jaj4hi$q3n$1@dont-email.me>
Source record: 3303

You sure about that?

http://jbweld.net/faq.php#faq009

"Jeffrey Angus" <grendelair@aim.com> wrote in message
news:jaj36p$g3f$1@dont-email.me...
> On 11/23/2011 8:37 AM, Jayson wrote:
>> I recently came across some JB Weld Waterweld and Loctite repair putty.
>
> I'm not familiar with these specific products, but I know
> from experience the standard JB Weld is conductive. Not a
> good choice for repairing insulated parts.
>
> Jeff
>
> --
> "Everything from Crackers to Coffins"

2703. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-23 15:53:38 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jaj4u3stq1@dont-email.me>
Source record: 3304

"Jayson" <jaysond551@aol.net> wrote in message
news:jaj0eh$u4e$1@dont-email.me...
>I recently came across some JB Weld Waterweld and Loctite repair putty. I
>have used this two part hand moldable epoxy for various indoor projects and
>have met with success on a number of occasions. I am now preparing to
>erect a dipole and I am wondering how well this epoxy would work for the
>center/ end insulators? My main concerns are UV, weathering and of course
>longitudinal strength. Anyone have experiences/ recommendations they can
>share?
>
> Thank you.
I thought that one of the parts had some powdered steel or something in it.
Anyway....make a sample and test it in the microwave.

2704. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-23 15:57:41 UTC
From: Jayson <jaysond551@aol.net>
Message-ID: <jaj55nugg1@dont-email.me>
Source record: 3305

No, according to their website, standard JB Weld and Waterweld are nonconductive. I have some hardened Waterweld here that I just tested with the ohmeter and there is no conductivity. They do have a steel reinforced one thought that would be conductive I suspect.

Why would I want to test this stuff in the microwave?

"Wayne" <mygarbagecan@verizon.net> wrote in message news:jaj4u3stq1@dont-email.me...
>
> "Jayson" <jaysond551@aol.net> wrote in message
> news:jaj0eh$u4e$1@dont-email.me...
>>I recently came across some JB Weld Waterweld and Loctite repair putty. I
>>have used this two part hand moldable epoxy for various indoor projects
>>and have met with success on a number of occasions. I am now preparing to
>>erect a dipole and I am wondering how well this epoxy would work for the
>>center/ end insulators? My main concerns are UV, weathering and of course
>>longitudinal strength. Anyone have experiences/ recommendations they can
>>share?
>>
>> Thank you.
> I thought that one of the parts had some powdered steel or something in
> it. Anyway....make a sample and test it in the microwave.
>

2705. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-24 00:21:05 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <jak2lh$dq8$2@dont-email.me>
Source record: 3306

On 11/23/2011 9:57 AM, Jayson wrote:
> Why would I want to test this stuff in the microwave?

Dielectric losses.

Make sure you have a cup of water in there while you do
it. But afterwards check the blob of material to make
sure it stayed at room temperature.

Jeff

--
"Everything from Crackers to Coffins"

2706. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-24 04:04:58 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <almarsoft.4543025650912965578@news.eternal-september.org>
Source record: 3307

On Wed, 23 Nov 2011 18:21:05 -0600, Jeffrey Angus
<grendelair@aim.com> wrote:
> On 11/23/2011 9:57 AM, Jayson wrote:
> > Why would I want to test this stuff in the microwave?

> Dielectric losses.

> Make sure you have a cup of water in there while you do
> it. But afterwards check the blob of material to make
> sure it stayed at room temperature.

> Jeff

> --

Yeah...what Jeff said. :-)
--Wayne
W5GIE

2707. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-24 12:26:02 UTC
From: dave <dave@dave.dave>
Message-ID: <69qdnb7DCodHqlPTnZ2dnUVZ_uOdnZ2d@earthlink.com>
Source record: 3308

On Wed, 23 Nov 2011 09:37:05 -0500, Jayson wrote:

> I recently came across some JB Weld Waterweld and Loctite repair putty.
> I have used this two part hand moldable epoxy for various indoor
> projects and have met with success on a number of occasions. I am now
> preparing to erect a dipole and I am wondering how well this epoxy would
> work for the center/ end insulators? My main concerns are UV,
> weathering and of course longitudinal strength. Anyone have
> experiences/ recommendations they can share?
>
> Thank you.

These are cheap enough, eh?

http://www.universal-radio.com/catalog/antsup/3720.html

2708. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-25 03:43:09 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <jan2sj$g81s$1@tr22n12.aset.psu.edu>
Source record: 3309

On 11/23/2011 10:57 AM, Jayson wrote:
> No, according to their website, standard JB Weld and Waterweld are
> nonconductive. I have some hardened Waterweld here that I just tested
> with the ohmeter and there is no conductivity. They do have a steel
> reinforced one thought that would be conductive I suspect.
>
> Why would I want to test this stuff in the microwave?

Remember that testing with an ohm meter is testing at DC. RF wise, it might be a different story.

Regardless of matters of conductivity, insulators are cheap enough that they would be a better choice than repairing a broken insulator. I'd be very skeptical of the structural integrity of such a repair, especially if the break was not caused by impact. That would mean that the break was caused by structural stresses, and would likely recur.

- 73 de Mike N3LI -

2709. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-25 14:11:08 UTC
From: Jayson <jaysond551@aol.net>
Message-ID: <jao7m0psl1@dont-email.me>
Source record: 3310

Thanks to all. I decided not to use the Waterweld due to the uncertainties. I tried to use what coax seal I had left since Radio Shack no longer sells it and I lacked time to get more, so what coax seal didn't seal I covered with electrical tape followed by a couple of coats of liquid electrical tape.

I think my original question here was a little misleading. I really wasn't needing a support insulator, but a proper seal. I was building a folded gain dipole for 20 meters out of 300 ohm twin lead, so the ends had to be sealed as well as the two center places where the beams connect. Hard to explain, but I sealed as above. Hope it holds up.

Jayson

"dave" <dave@dave.dave> wrote in message
news:69qdnb7DCodHqlPTnZ2dnUVZ_uOdnZ2d@earthlink.com...
> On Wed, 23 Nov 2011 09:37:05 -0500, Jayson wrote:
>
>> I recently came across some JB Weld Waterweld and Loctite repair putty.
>> I have used this two part hand moldable epoxy for various indoor
>> projects and have met with success on a number of occasions. I am now
>> preparing to erect a dipole and I am wondering how well this epoxy would
>> work for the center/ end insulators? My main concerns are UV,
>> weathering and of course longitudinal strength. Anyone have
>> experiences/ recommendations they can share?
>>
>> Thank you.
>
> These are cheap enough, eh?
>
> http://www.universal-radio.com/catalog/antsup/3720.html

2710. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-25 14:35:13 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <jao930$2qs$1@dont-email.me>
Source record: 3311

On 11/25/2011 8:11 AM, Jayson wrote:
>
> I think my original question here was a little misleading. I really
> wasn't needing a support insulator, but a proper seal.

You can put several coats of "Liquid electrical tape" over the
connections. That's flexible and water proof.

Jeff

--
"Everything from Crackers to Coffins"

2711. Re: JB Weld Waterweld and/or Loctite repair epoxy for dipole insulators??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-25 16:14:10 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jaoesr$b0m$1@dont-email.me>
Source record: 3312

"Jayson" wrote in message news:jao7m0psl1@dont-email.me...

>Thanks to all. I decided not to use the Waterweld due to the
>uncertainties. I tried to use what coax seal I had left since Radio Shack
>no longer sells it and I lacked time to get more, so what coax seal didn't
>seal I covered with electrical tape followed by a couple of coats of liquid
>electrical tape.
>
>I think my original question here was a little misleading. I really wasn't
>needing a support insulator, but a proper seal. I was building a folded
>gain dipole for 20 meters out of 300 ohm twin lead, so the ends had to be
>sealed as well as the two center places where the beams connect. Hard to
>explain, but I sealed as above. Hope it holds up.
>
>Jayson
-
OK, good luck.

But, I was hoping to see someone microwave test the JB. Might do it myself,
just out of curiosity if I get tired of watching the squirrels run up and
down the tree out back :)

Wayne
W5GIE

2712. Satellite Direction Finding?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 02:42:39 UTC
From: "Leland C. Scott" <kc8ldo@arrl.net>
Message-ID: <qaSdnT-7d9yFz03TnZ2dnUVZ_q6dnZ2d@giganews.com>
Source record: 3313

From time to time I've read about some interference, or deliberate jamming, of an amateur satellite.

My question is has anybody written a nice paper where using known orbital elements of the satellite and Doppler Shift to calculate a curve on the earth's surface where the source maybe located? I would think any issue with the satellite's transponder's frequency conversation, due to local oscillator frequency drift, can be corrected for by calibrating the link between two or more known stations. This I'm assuming would likely only work for linear transponders.

Since the satellites are in highly elliptical orbits the Doppler Shift would be different over several orbits. Then using multiple orbits these curves I think would tend to intersect, or nearly so, at one point. Additionally the time of signal acquisition and loss can be timed and compared to the projected ground foot print of the satellite coverage zone to help zero in on the source location.

73's

Leland C. Scott
KC8LDO

2713. Re: Satellite Direction Finding?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 05:21:02 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <9pr0d71ao3362ik9c3pn1ugtsa03gh3qau@4ax.com>
Source record: 3314

On Fri, 25 Nov 2011 21:42:39 -0500, "Leland C. Scott"
<kc8ldo@arrl.net> wrote:

>From time to time I've read about some interference, or deliberate jamming,
>of an amateur satellite.
>
>My question is has anybody written a nice paper where using known orbital
>elements of the satellite and Doppler Shift to calculate a curve on the
>earth's surface where the source maybe located?

Sorta. That's how the Transit (NAVSAT) satellite navigation system
worked, but backwards. In the Transit system, the ground station
measured the doppler shift from the satellites. In your case, you'll
need to measure the doppler shift of the ground station from the
satellite. That's going to be difficult because your ground station
will have both the ground to satellite doppler, and the satellite to
your receiver doppler to deal with simultaneously. Since both the
postion of the satellite and your station is known, the 2nd doppler
shift can be calculated. Note that the only part of the "S" curve
that's really important is where the satellite passes overhead. A
highly elliptical orbit will make that somewhat tricky.

The math to recover the first doppler shift involves an exercise in 3D
spherical geometry, which is non-trivial. I'm not even sure I could
still do the math. Sorry no software handy:
<http://en.wikipedia.org/wiki/Transit_(satellite)>
<http://www.jhuapl.edu/techdigest/td/td1901/>
<http://www.prc68.com/I/MX4102.shtml>

>I would think any issue with
>the satellite's transponder's frequency conversation, due to local
>oscillator frequency drift, can be corrected for by calibrating the link
>between two or more known stations. This I'm assuming would likely only work
>for linear transponders.

Correct. The "bent pipe" satellite transponder is the only one that
will pass the uplink doppler shift. It won't work with a
demodulate-remodulate repeater.

>Since the satellites are in highly elliptical orbits the Doppler Shift would
>be different over several orbits. Then using multiple orbits these curves I
>think would tend to intersect, or nearly so, at one point. Additionally the
>time of signal acquisition and loss can be timed and compared to the
>projected ground foot print of the satellite coverage zone to help zero in
>on the source location.

Yep, except that from 100 miles up, the "cocked hat" pattern formed by
the lines of position is going to be rather large. I don't have a
feel for the expected accuracy, but I'll guess(tm) that you'll be
lucky if you can locate anything within a mile radius.

Good luck.

>Leland C. Scott
>KC8LDO

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2714. NEED ICOM STUFF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 05:31:14 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <fcu0d711ghbq8pt24hcatdaf7phoujb523@4ax.com>
Source record: 3315

Hi,

I would like to buy anything related to Icom 745/751 radios, parts,
too, even the radio itself
working or not.

Thank you.

jbleaux@gmail.com

2715. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 08:36:55 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <5452b2b6-e12b-46ac-afa1-ccbc46248443@v8g2000yqk.googlegroups.com>
Source record: 3316

Sports News
http://super1213.blogspot.com

Top Marketting
http://market78.blogspot.com

List of Dogs Breeds Images and Videos
http://dogbreedspk.blogspot.com

Fashion Life Style
http://fashion1299.blogspot.com

2716. Re: Winding an Unun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 08:58:56 UTC
From: Rory
Message-ID: <is91d7l96m07bqtn3af6nti0reasjt317n@4ax.com>
Source record: 3317

On Fri, 18 Nov 2011 20:03:19 +0000, Jim Higgins <invalid@invalid.invalid> wrote:

>
>A question - when winding a triflar unun on a toroid, typical pictures
>show the leads on one end numbered 1, 3, 5 in that order with other
>end being 2, 4, 6. Is there any reason they can't be in the order 1,
>5, 3? (Other end would be 2, 6, 4?)

Would you mind posting a link to one or more of the sites with the 'typical
pictures' so I may get a complete picture of what you are referring to? You have
piqued my curiosity. Thanks.

2717. Re: Satellite Direction Finding?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 10:06:31 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <jaqdn7ta1@speranza.aioe.org>
Source record: 3318

On 26/11/2011 02:42, Leland C. Scott wrote:
> From time to time I've read about some interference, or deliberate jamming,
> of an amateur satellite.
>
>
>
> My question is has anybody written a nice paper where using known orbital
> elements of the satellite and Doppler Shift to calculate a curve on the
> earth's surface where the source maybe located? I would think any issue with
> the satellite's transponder's frequency conversation, due to local
> oscillator frequency drift, can be corrected for by calibrating the link
> between two or more known stations. This I'm assuming would likely only work
> for linear transponders.
>

This is how the SARSATs calculated the position of 121.5MHz and 243 MHz
EPIRBs.

Jeff

2718. Re: Satellite Direction Finding?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 11:55:19 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnjd1kt7.qvk.nomail@xs8.xs4all.nl>
Source record: 3319

Jeff Liebermann <jeffl@cruzio.com> wrote:
> Yep, except that from 100 miles up, the "cocked hat" pattern formed by
> the lines of position is going to be rather large. I don't have a
> feel for the expected accuracy, but I'll guess(tm) that you'll be
> lucky if you can locate anything within a mile radius.

It should not be difficult to locate the source so accurately that you could go to that position and hear the transmitter and locate it using land-based direction finding.

However, this usually is not very practical. The interference comes from countries with little amateur activity, and who wants to go there for a fox-hunt (which you maybe cannot start right away, you have to wait until the interfering transmitter is active again).

And then, what are you going to do once the source has been located? The local authorities are probably not that interested in getting it off the air...

2719. Re: NEED ICOM STUFF

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 20:41:10 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <mlj2d7h2qjmrjjf4t23sh7m0dacs0l2tjc@4ax.com>
Source record: 3320

On Fri, 25 Nov 2011 23:31:14 -0600, justme <jbleaux@gmail.com> wrote:

>Hi,
>
>I would like to buy anything related to Icom 745/751 radios, parts,
>too, even the radio itself
>working or not.
>
>Thank you.
>
>
>jbleaux@gmail.com

Check eBay.

Don't know about the 745 but I see auctions for IC-735 parts or entire
735's for parts.

2720. Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 22:22:52 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <8b22e1d5-907a-4ee6-ab40-4c3333231ab7@o13g2000vbo.googlegroups.com>
Source record: 3321

Can anyone direct me to the dimensions to build a six meter J-pole that is patterned after the Arrow Antenna two meter design that had the feed point at the bottom of one of the elements rather than at a point part way up the height of the matching stub.

The reason that I would like to use that design is that I would like to use Rigid Aluminum Conduit to build the antenna. There not being a lot of simple inexpensive fittings for Conduit the way there is for copper pipe a mechanically simpler design would be easier to build.

Replies are welcome on or off list. Let me say that I would rather not be subjected to any tirades about the inferiority of the J-pole approach or the superiority of some other antenna design. That does not mean that I am not open to suggestions for a better approach as long as it is civilly stated and I am spared the application of Rant Mode.

--
Tom Horne, W3TDH

2721. tying off antenna; proper guy wire tying?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-26 23:57:40 UTC
From: Radiohouse <radiohouse@nowhere.net>
Message-ID: <jarue1khv1@dont-email.me>
Source record: 3322

Just put up a 80 meter dipole today, but had some difficulty with two things: proper tying off of the lift/ support rope and proper tying off of the guys. When I say "support rope" here's what I mean: one side of the dipole was anchored high in a tree while the other from a 30' telephone pole. The tree had a pulley installed, so the "support rope" hangs down from there as well as the eye bolt from the telephone pole (support rope through the eye bolt). So, I'm not sure where or how to tie the support rope ends. Right now, on the tree side, I just have several turns around a low branch with a knot; basically the same with the telephone pole side. What is the proper way to secure the base of the supoort rope?

How do I tie the guy wires?

Thanks for any help.

2722. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-27 07:53:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9FAAC03E5C3E8nonenowhere@88.198.244.100>
Source record: 3323

Tom Horne <hornetd@gmail.com> wrote in news:8b22e1d5-907a-4ee6-ab40-4c3333231ab7@o13g2000vbo.googlegroups.com:

...
> Replies are welcome on or off list. Let me say that I would rather
> not be subjected to any tirades about the inferiority of the J-pole
> approach or the superiority of some other antenna design. That does
> not mean that I am not open to suggestions for a better approach as
> long as it is civilly stated and I am spared the application of Rant
> Mode.

It is a sad statement of the state of affairs when you feel a need to compose a help request with such conditions, 40% of your post is setting conditions on your would be helpers responses.

This is not unusualy, the posts can often can be paraphrased as "I have got this really good idea, and I don't want to hear from anyone that it is less than a really good idea... over".

Your 40% conditions is by no means a record, higher percentages have been observed on QRZ and eHam, such high percentage as to make the whole thing look like a troll rather than a genuine request for help.

My own view is that it helps to be a little humble when seeking help.

Owen

2723. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-27 09:44:33 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <hvu3d7hev0qamknmbih208ac6qnro3lkpe@4ax.com>
Source record: 3324

On Sat, 26 Nov 2011 14:22:52 -0800 (PST), Tom Horne
<hornetd@gmail.com> wrote:

>Can anyone direct me to the dimensions to build a six meter J-pole
>that is patterned after the Arrow Antenna two meter design that had
>the feed point at the bottom of one of the elements rather than at a
>point part way up the height of the matching stub.

The 144/440 antenna can be found at:
<http://www.arrowantennas.com/inst/OSJ146440.pdf>
with dimensions included. You probably won't need the short element
in the middle which seems to do something for 440Mhz operation.

Two ways to do this:
1. Plug the dimensions (in wavelengths) into an EZNec or 4NEC2
antenna model, and scale it for 52MHz.
2. Scale the antenna dimensions linearly from 146 to 52MHz and
optimize with cut-n-try. The driven element is 1/4 wavelength long,
and the parasitic element is 3/4 wavelength long.

>The reason that I would like to use that design is that I would like
>to use Rigid Aluminum Conduit to build the antenna. There not being a
>lot of simple inexpensive fittings for Conduit the way there is for
>copper pipe a mechanically simpler design would be easier to build.

Maybe, but the 3/4 wavelength element is going to end up about 15ft
long, which is rather long for tubing without a top support. The
"rigid" aluminum conduit is made to be bent to shape. I suspect this
15ft long tube might deform in the wind.

>Let me say that I would rather
>not be subjected to any tirades about the inferiority of the J-pole
>approach or the superiority of some other antenna design.

Ok. I'll just ignore my experience with J-poles and pretend that
they're suitable for your unstated purpose.

>That does
>not mean that I am not open to suggestions for a better approach as
>long as it is civilly stated and I am spared the application of Rant
>Mode.

Approach for what application and mounting? If you want an antenna
with a rather high takeoff angle, an end fed antenna, such as the
J-pole will send most of your RF towards the birds instead of the
horizon. If you want an antenna with a radiating coax cable (by
lacking a balun), the J-pole is quite appropriate. If you want an

antenna that produces impressive cloverleaf horizontal gain patterns when side mounted on a tower, the J-pole is the hot ticket. The J-pole does have one big advantage. It was originally called a Zepp antenna, after the Zepplin airship, where the antenna was suspended downward. Because the low voltage point is at the base of the antenna, there would be no sparks to ignite the hydrogen gas. However, if you don't plan on flying your j-pole on a Zepplin, this advantage might not be very useful.
<http://en.wikipedia.org/wiki/J-pole_antenna> (first paragraph)

Please feel free to offer undying praise and monetary renumeration for the advice. I'm always open to being paid. There are probably better designs but since you've already decided on a J-pole, it's probably futile to suggest alternatives. Besides, it might precipitate a debate or arguement. Oddly, I learn more from such debates and arguments, than from pontifications.

5/8 wave 6m ground plane:
<http://802.11junk.com/jeffl/antennas/gnd-plane-02/index.html>
5/8 + 5/8 wave 6m ground plane:
<http://802.11junk.com/jeffl/antennas/gnd-plane-05/index.html>

I would normally offer to build you a NEC2 model of your proposed antenna, but since I don't know what diameter aluminum tubing you have in mind, and since it's 1:30AM, I'll pass for tonite.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2724. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-27 22:41:14 UTC
From: Sal <sobars@aol.com>
Message-ID: <jaue9r$f46$1@dont-email.me>
Source record: 3325

"Tom Horne" <hornetd@gmail.com> wrote in message
news:8b22e1d5-907a-4ee6-ab40-4c3333231ab7@o13g2000vbo.googlegroups.com...
> Can anyone direct me to the dimensions to build a six meter J-pole
> that is patterned after the Arrow Antenna two meter design that had
> the feed point at the bottom of one of the elements rather than at a
> point part way up the height of the matching stub.
>
> The reason that I would like to use that design is that I would like
> to use Rigid Aluminum Conduit to build the antenna. There not being a
> lot of simple inexpensive fittings for Conduit the way there is for
> copper pipe a mechanically simpler design would be easier to build.
>
> Replies are welcome on or off list. Let me say that I would rather
> not be subjected to any tirades about the inferiority of the J-pole
> approach or the superiority of some other antenna design. That does
> not mean that I am not open to suggestions for a better approach as
> long as it is civilly stated and I am spared the application of Rant
> Mode.
>
> --
> Tom Horne, W3TDH

Certainly not a rant but a question about the question:

Is your reason for this approach mainly your access to beaucoup aluminum conduit? I ask because I'm a j-pole fan and I've built dozens of them, including three for 6m using copper pipe and one 6m from window line. The feed is less than 7 inches from the bottom of the active portion of the 6m version.

Using your conduit, you might employ the "standard" j-pole design and bolt the segments together, placing wooden dowels inside your conduit ends to resist crushing forces. Am I striking a chord, yet?

A brace near the top of the stub section would likely be required to prevent rotation where the bottom of the "j" attaches to the main section. You might be well-served to wrap the bottom of the "j" with a tight spiral of mesh sleeve (like the braid-only of some unneeded coax) and clamp the ends. This would help mitigate the electrical consequences of a bad joint or two. Alternatively, bridge (jumper) the individual joints.

But see http://www.wagnercompanies.com/cast_aluminum.aspx , where a single 3/4 - inch tee or elbow is about $7.00. Do-able?

Note, my 6m copper j-poles are all 3/4 - inch material except the top three feet of of the long section. I tried using all 1/2 - inch copper once but

that build was so wobbly that I immediately took it apart. (It's about 13 feet tall.)

Some of my j-poles have benefitted from having a capacitor from the feed connector center pin over to the the long side, in lieu of a straight piece of wire. I use one whenever the VSWR is mid-band but above 1:1. No science to it; I just tried a few around 100pF and SHAZAM! I was inspired by the capacitive feed in a gamma match.

Happy brewing.

"Sal"
(KD6VKW)

2725. Re: tying off antenna; proper guy wire tying?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-27 22:54:38 UTC
From: Sal <sobars@aol.com>
Message-ID: <jauf2vjmg1@dont-email.me>
Source record: 3326

"Radiohouse" <radiohouse@nowhere.net> wrote in message
news:jarue1khv1@dont-email.me...
> Just put up a 80 meter dipole today, but had some difficulty with two
> things: proper tying off of the lift/ support rope and proper tying off of
> the guys. When I say "support rope" here's what I mean: one side of the
> dipole was anchored high in a tree while the other from a 30' telephone
> pole. The tree had a pulley installed, so the "support rope" hangs down
> from there as well as the eye bolt from the telephone pole (support rope
> through the eye bolt). So, I'm not sure where or how to tie the support
> rope ends. Right now, on the tree side, I just have several turns around
> a low branch with a knot; basically the same with the telephone pole side.
> What is the proper way to secure the base of the supoort rope?

Some people use gravity in the form of a bucket with rocks or scrap
concrete. It takes up slack (or pays out) as dictated the wind or ice load
on the antenna.
>
> How do I tie the guy wires?

Clarify guy wires, please. I have three dipoles, none with guy wires.

"Sal"

2726. Noise Tutorials

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-27 23:47:19 UTC
From: brent <bulegoge@columbus.rr.com>
Message-ID: <6a0afade-b4ab-408e-8463-061692a25f27@4g2000yqu.googlegroups.com>
Source record: 3327

I have finished two tutorials on noise.

the first one is here:

http://www.fourier-series.com/Noise/index.html

This covers thermal noise, and contains several interactive flash programs. included is insight into the thermal noise equation, rms voltage calculations, examples of correlation and how independent (uncorrelated) noise adds together. All the programs have extensive audio explanations.

The second one is here:

http://www.fourier-series.com/Noise/NoiseFigure.html

This covers The basic noise model of an amplifier. Spectrum analyzer representations of input signal and noise and output signal and noise are presented with interactive features to allow the user to modify signal levels, gain and noise figures of the amplifier. A full explanation of the noise factor model and derivation of Friis formula using interactive programs and audio explanations are provided.

brent

2727. Noise Tutorials

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-27 23:47:43 UTC
From: brent <bulegoge@columbus.rr.com>
Message-ID: <56657627-94ac-4bf9-bce4-360576577e1f@q30g2000yqj.googlegroups.com>
Source record: 3328

I have finished two tutorials on noise.

the first one is here:

http://www.fourier-series.com/Noise/index.html

This covers thermal noise, and contains several interactive flash programs. included is insight into the thermal noise equation, rms voltage calculations, examples of correlation and how independent (uncorrelated) noise adds together. All the programs have extensive audio explanations.

The second one is here:

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brent

2728. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 00:07:11 UTC
From: Andiour
Message-ID: <4tj5d79qi45jku143hshv166u4j366kmj2@4ax.com>
Source record: 3329

On Sat, 26 Nov 2011 14:22:52 -0800 (PST), Tom Horne <hornetd@gmail.com> wrote:

>Let me say that I would rather
>not be subjected to any tirades about the inferiority of the J-pole
>approach or the superiority of some other antenna design. That does
>not mean that I am not open to suggestions for a better approach as
>long as it is civilly stated and I am spared the application of Rant
>Mode.

Are you so clueless that you don't see the above as throwing down the gauntlet
to every prospective troll within 50 groups of here?

Good luck.

2729. Re: Noise Tutorials

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 15:03:17 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <7j87d7doohgbgckhqr2jtn877g0pbd71j2@4ax.com>
Source record: 3330

On Sun, 27 Nov 2011 15:47:19 -0800 (PST), brent
<bulegoge@columbus.rr.com> wrote:

>I have finished two tutorials on noise.
>
>the first one is here:
>
>http://www.fourier-series.com/Noise/index.html
>
>This covers thermal noise, and contains several interactive flash
>programs. included is insight into the thermal noise equation, rms
>voltage calculations, examples of correlation and how independent
>(uncorrelated) noise adds together. All the programs have extensive
>audio explanations.
>
>The second one is here:
>
>http://www.fourier-series.com/Noise/NoiseFigure.html
>
>This covers The basic noise model of an amplifier. Spectrum analyzer
>representations of input signal and noise and output signal and noise
>are presented with interactive features to allow the user to modify
>signal levels, gain and noise figures of the amplifier. A full
>explanation of the noise factor model and derivation of Friis formula
>using interactive programs and audio explanations are provided.
>
>brent

Thank you!
I always look forward to your work.
de W8CCW
John Ferrell W8CCW

2730. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 16:04:10 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <d0e4e5ff-0b65-442f-b5af-66ab911d06b8@cc2g2000vbb.googlegroups.com>
Source record: 3331

On Nov 27, 7:07 pm, Andiour wrote:
> On Sat, 26 Nov 2011 14:22:52 -0800 (PST), Tom Horne <horn...@gmail.com> wrote:
> >Let me say that I would rather
> >not be subjected to any tirades about the inferiority of the J-pole
> >approach or the superiority of some other antenna design. That does
> >not mean that I am not open to suggestions for a better approach as
> >long as it is civilly stated and I am spared the application of Rant
> >Mode.
>
> Are you so clueless that you don't see the above as throwing down the gauntlet
> to every prospective troll within 50 groups of here?
>
> Good luck.

OK I'm clueless because I asked to be spared tirades and rants. Than
I guess I'm clueless but not so rude as you.
--
Tom Horne, W3TDH

2731. Re: Satellite Direction Finding?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 17:25:35 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <jb0g6f$2a4$1@news.jpl.nasa.gov>
Source record: 3332

On 11/25/2011 6:42 PM, Leland C. Scott wrote:
> From time to time I've read about some interference, or deliberate jamming,
> of an amateur satellite.
>
>
>
> My question is has anybody written a nice paper where using known orbital
> elements of the satellite and Doppler Shift to calculate a curve on the
> earth's surface where the source maybe located?

Yes. Look for papers on the Argos system (that's what they use for
tracking things like buoys, etc.).

Here's some starting points:
3 papers by Levanon, et. al.
1985 Random Error in ARGOS and SARSAT Satellite Positioning Systems
1984 Theoretical Bounds on Random Errors in Satellite Doppler Navigation
1983 Angle-Independent Doppler Velocity Measurement

More recently
2007 Amiri & Mehdipour, "Accurate Doppler Frequency Shift Estimation for
any Satellite Orbit"
2008 Amar & Weiss, "Localization of Narrowband Radio Emitters Based on
Doppler Frequency Shifts"

I would think any issue with
> the satellite's transponder's frequency conversation, due to local
> oscillator frequency drift, can be corrected for by calibrating the link
> between two or more known stations. This I'm assuming would likely only work
> for linear transponders.

Actually, you don't even need that. If you think about it, what you are
trying to do is do a sort of curve fit where the unknowns are the 6
orbital elements and the frequency of the transmitter.

Simple techniques (like those you'll find in the Satellite
Experimenter's Handbook and similar works) tend to focus on things like
determining the inflection point of the Doppler curve, which tells you
the point of closest approach, and then relating that to figure out the
orbit (or position of the receiver/transmitter).

before the advent of the computational horsepower, analytical techniques
like this were popular. You could do fixes and orbit determination with
a stopwatch and slide rule.

Much like doing Celestial Navigation using Nautical Almanac and sight
reduction tables vs using a computer.

These days, iterative approaches are more useful, and have the advantage
that you can weight the individual observations by their SNR, for instance.

>
>
>
> Since the satellites are in highly elliptical orbits the Doppler Shift would
> be different over several orbits. Then using multiple orbits these curves I
> think would tend to intersect, or nearly so, at one point.

Yes. It depends on the orbit. Some are more useful than others, i.e.
the classic 4 day repeat frozen orbit only gives you half a dozen
different paths over any given point on the surface.

Additionally the
> time of signal acquisition and loss can be timed and compared to the
> projected ground foot print of the satellite coverage zone to help zero in
> on the source location.

It's fairly straightforward, and if you think in terms of iterative
solutions, all you really need is a decent goal-seeker/optimizer engine
tied to a orbit simulator. There's a variety of Matlab/Octave packages
out there that do the orbit mechanics, and likewise, there's optimizer
engines.

For that matter, doing the orbital stuff yourself isn't that hard with
matlab/octave/mathematica or even C, BASIC, or PASCAL. Especially if you
don't need gnat's eyelash precision. Take a look at the MIT
OpenCourseWare offering for 16.07 Dynamics Fall 2008 Version 2.0 by
Widnall and Peraire.. Specifically Lectures 15 and 16

T.S. Kelso's SGP from the celestrak.com website is a defacto standard
orbit propagator. There's tons of implementations out there in pretty
much any language you want.

>
> 73's
>
> Leland C. Scott
> KC8LDO
>
>

2732. Re: Satellite Direction Finding?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 17:31:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <jb0gi7$317$1@news.jpl.nasa.gov>
Source record: 3334

On 11/25/2011 9:21 PM, Jeff Liebermann wrote:
> On Fri, 25 Nov 2011 21:42:39 -0500, "Leland C. Scott"
> <kc8ldo@arrl.net> wrote:
>
>> From time to time I've read about some interference, or deliberate jamming,
>> of an amateur satellite.
>>
>> My question is has anybody written a nice paper where using known orbital
>> elements of the satellite and Doppler Shift to calculate a curve on the
>> earth's surface where the source maybe located?
>
> Sorta. That's how the Transit (NAVSAT) satellite navigation system
> worked, but backwards. In the Transit system, the ground station
> measured the doppler shift from the satellites. In your case, you'll
> need to measure the doppler shift of the ground station from the
> satellite. That's going to be difficult because your ground station
> will have both the ground to satellite doppler, and the satellite to
> your receiver doppler to deal with simultaneously. Since both the
> postion of the satellite and your station is known, the 2nd doppler
> shift can be calculated. Note that the only part of the "S" curve
> that's really important is where the satellite passes overhead. A
> highly elliptical orbit will make that somewhat tricky.

Actually, you really need to see as much of the curve as possible.
Sure, just knowing point of closes approach (center of the S) is
commonly used in navigation solutions, but seeing the whole curve lets
you take out more of the unknowns.

One assumption is that the frequency of the oscillator is "reasonably"
stable over the observation time (100-1000 seconds for most LEO) so that
the frequency measurements have low variance, and that the drift is
small. Crummy RC oscillator with tons of phase noise wouldn't help.

>
> The math to recover the first doppler shift involves an exercise in 3D
> spherical geometry, which is non-trivial. I'm not even sure I could
> still do the math. Sorry no software handy:
> <http://en.wikipedia.org/wiki/Transit_(satellite)>
> <http://www.jhuapl.edu/techdigest/td/td1901/>
> <http://www.prc68.com/I/MX4102.shtml>
>
>> I would think any issue with
>> the satellite's transponder's frequency conversation, due to local
>> oscillator frequency drift, can be corrected for by calibrating the link
>> between two or more known stations. This I'm assuming would likely only work

>> for linear transponders.
>
> Correct. The "bent pipe" satellite transponder is the only one that
> will pass the uplink doppler shift. It won't work with a
> demodulate-remodulate repeater.

>
>> Since the satellites are in highly elliptical orbits the Doppler Shift would
>> be different over several orbits. Then using multiple orbits these curves I
>> think would tend to intersect, or nearly so, at one point. Additionally the
>> time of signal acquisition and loss can be timed and compared to the
>> projected ground foot print of the satellite coverage zone to help zero in
>> on the source location.
>
> Yep, except that from 100 miles up, the "cocked hat" pattern formed by
> the lines of position is going to be rather large. I don't have a
> feel for the expected accuracy, but I'll guess(tm) that you'll be
> lucky if you can locate anything within a mile radius.

160km is VERY low for an orbit (that's Phoebus-Grunt kind of territory)
ISS is low (350-400 km) and has significant effects from drag. Most
LEO are at 600km and above.

Locating to within a mile should be straightforward. ARGOS regularly
gives positions of wildlife trackers and such to about 500m kinds of
accuracy.

>
> Good luck.
>
>> Leland C. Scott
>> KC8LDO
>

2733. Re: Winding an Unun

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 17:33:56 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <jb0gm4$317$2@news.jpl.nasa.gov>
Source record: 3333

On 11/27/2011 12:02 PM, Jim Higgins wrote:
> On Sat, 26 Nov 2011 03:58:56 -0500, Rory wrote:
>
>> On Fri, 18 Nov 2011 20:03:19 +0000, Jim Higgins<invalid@invalid.invalid> wrote:
>>>
>>> A question - when winding a triflar unun on a toroid, typical pictures
>>> show the leads on one end numbered 1, 3, 5 in that order with other
>>> end being 2, 4, 6. Is there any reason they can't be in the order 1,
>>> 5, 3? (Other end would be 2, 6, 4?)
>>
>> Would you mind posting a link to one or more of the sites with the 'typical
>> pictures' so I may get a complete picture of what you are referring to? You have
>> piqued my curiosity. Thanks.
>
>
> http://www.sdarc.net/wp-content/uploads/pdfs/Making_Baluns.pdf
> About half way down for one example.
>
> Whether each wire has ends labeled A-a, B-b, C-c as at the link above,
> or 1-2, 3-4, 5-6, it's all the same thing.
>
> The Unun I made came from the book "Understanding, Building, and Using
> Baluns and Ununs" by Jerry Sevick. Chapter 13, Figure 13-1 A
>
> Now what I want to know - actually just vent about - is why the wire
> sold by the same place that sells toroids is hard drawn instead of
> annealed copper.

Because they're selling wire for antennas, which is supposed to be
hard-drawn?

It's an absolute bugger to get 6 trifilar turns of
> hard drawn #14 wire onto a 1.5" OD toroid. It would be much easier,
> if not downright easy, if the wire were annealed. Next time I'll get
> some magnet wire from a local motor rewinder.

For coils, as you note, you want soft annealed. If your core is big
enough, you can use ordinary THHN house wire.

2734. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 18:31:53 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <6ba599ba-cd07-4d59-9e00-a3692e4e4840@n10g2000vbg.googlegroups.com>
Source record: 3335

On Nov 27, 2:53 am, Owen Duffy <n...@no.where> wrote:
> Tom Horne <horn...@gmail.com> wrote in news:8b22e1d5-907a-4ee6-ab40-
> 4c3333231...@o13g2000vbo.googlegroups.com:
>
> ...
>
> > Replies are welcome on or off list. Let me say that I would rather
> > not be subjected to any tirades about the inferiority of the J-pole
> > approach or the superiority of some other antenna design. That does
> > not mean that I am not open to suggestions for a better approach as
> > long as it is civilly stated and I am spared the application of Rant
> > Mode.
>
> It is a sad statement of the state of affairs when you feel a need to
> compose a help request with such conditions, 40% of your post is setting
> conditions on your would be helpers responses.
>
> This is not unusualy, the posts can often can be paraphrased as "I have
> got this really good idea, and I don't want to hear from anyone that it
> is less than a really good idea... over".
>
> Your 40% conditions is by no means a record, higher percentages have
> been observed on QRZ and eHam, such high percentage as to make the whole
> thing look like a troll rather than a genuine request for help.
>
> My own view is that it helps to be a little humble when seeking help.
>
> Owen

Owen

I apologize for coming across as arrogant. I didn't mean to.

Perhaps it would help to know that I was looking at the J-pole as a
transportable antenna that would be used when the operating position
is down in between buildings, ridges, mountains, etc. I did look at
the online patterns for a J-pole. When I used a diamond ground plane
under those conditions the results were less than satisfactory. The
intent is to get the signals up out of the hole. The aluminum conduit
was because it is much lighter than copper pipe and far less expensive
at present pricing. I may want to replicate the antenna several times
if it happens to overcome the problem for the purpose of reliable
communications outside of simplex two meter range without limiting the
operator pool to general and above licensees. Also there are several
places were we could use six meter APRS to collect data from, for just

example, a temporary stream gauge by installing the gauge in the time between a flash flood watch and any subsequent flash flood warning. Obviously the temporary gauging point may well contribute to the decision as to whether and when to issue the warning. I was thinking to use rigid aluminum conduit because of the availability of both compression and threaded couplings. I intended to test which coupling technique would stand the most bending force on the upper portion of the antenna. I already guessed that the antenna might need to be guyed but I wanted to try whether using a one inch or even one and a quarter inch nominal size would avoid the need for that. Since the Arrow Antenna design is fed at the bottom of the shorter matching stub I thought it might be easier to transport and deploy without damaging it. As for keeping the stub in line with the radiator I had envisioned a short piece of 5/8" fiberglass U channel with two stainless steel pipe clamps as being robust enough to withstand repeated handling. The three quarter wavelength portion of the antenna would be fashioned into three nearly equal sized sections for ease of transport.

I have constructed a dual half wave collinear J-pole using copper pipe. It had given me much better empirical performance than the borrowed ground plane that I had used before it. If I could get the needed range out of the simple J-pole I was next going to work on the physical challenge of building another collinear dual half wave for six meters were the second have wave could be added readily for use when the antenna would not be located below local horizon.
--
Tom Horne, W3TDH

2735. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 18:40:58 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <ip-dnXuTw9wnSE7TnZ2dnUVZ_vadnZ2d@earthlink.com>
Source record: 3336

"Tom Horne" <hornetd@gmail.com> wrote in message
news:8b22e1d5-907a-4ee6-ab40-4c3333231ab7@o13g2000vbo.googlegroups.com...
> Can anyone direct me to the dimensions to build a six meter J-pole
> that is patterned after the Arrow Antenna two meter design that had
> the feed point at the bottom of one of the elements rather than at a
> point part way up the height of the matching stub.
>
> The reason that I would like to use that design is that I would like
> to use Rigid Aluminum Conduit to build the antenna. There not being a
> lot of simple inexpensive fittings for Conduit the way there is for
> copper pipe a mechanically simpler design would be easier to build.
>
> Replies are welcome on or off list. Let me say that I would rather
> not be subjected to any tirades about the inferiority of the J-pole
> approach or the superiority of some other antenna design. That does
> not mean that I am not open to suggestions for a better approach as
> long as it is civilly stated and I am spared the application of Rant
> Mode.
>
> --
> Tom Horne, W3TDH

If you have not found anything by now, you may go here for a 2 meter
version. Then divide the 150 mhz frequency by the 50 mhz frequency and get
a number near 3. Then multiply ALL the dimensions by that number. That is
the lengths, diameter of the elements and spacing.
http://www.w4cll.com/ijpole.html

2736. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 19:05:48 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <b488ba5f-993a-44ad-bb39-40973d41c47d@y42g2000yqh.googlegroups.com>
Source record: 3337

On Nov 27, 4:44 am, Jeff Liebermann <je...@cruzio.com> wrote:
> On Sat, 26 Nov 2011 14:22:52 -0800 (PST), Tom Horne
>
> <horn...@gmail.com> wrote:
> >Can anyone direct me to the dimensions to build a six meter J-pole
> >that is patterned after the Arrow Antenna two meter design that had
> >the feed point at the bottom of one of the elements rather than at a
> >point part way up the height of the matching stub.
>
> The 144/440 antenna can be found at:
> <http://www.arrowantennas.com/inst/OSJ146440.pdf>
> with dimensions included. You probably won't need the short element
> in the middle which seems to do something for 440Mhz operation.
>
> Two ways to do this:
> 1. Plug the dimensions (in wavelengths) into an EZNec or 4NEC2
> antenna model, and scale it for 52MHz.
> 2. Scale the antenna dimensions linearly from 146 to 52MHz and
> optimize with cut-n-try. The driven element is 1/4 wavelength long,
> and the parasitic element is 3/4 wavelength long.
>
> >The reason that I would like to use that design is that I would like
> >to use Rigid Aluminum Conduit to build the antenna. There not being a
> >lot of simple inexpensive fittings for Conduit the way there is for
> >copper pipe a mechanically simpler design would be easier to build.
>
> Maybe, but the 3/4 wavelength element is going to end up about 15ft
> long, which is rather long for tubing without a top support. The
> "rigid" aluminum conduit is made to be bent to shape. I suspect this
> 15ft long tube might deform in the wind.
>
> >Let me say that I would rather
> >not be subjected to any tirades about the inferiority of the J-pole
> >approach or the superiority of some other antenna design.
>
> Ok. I'll just ignore my experience with J-poles and pretend that
> they're suitable for your unstated purpose.
>
> >That does
> >not mean that I am not open to suggestions for a better approach as
> >long as it is civilly stated and I am spared the application of Rant
> >Mode.
>
> Approach for what application and mounting? If you want an antenna

> with a rather high takeoff angle, an end fed antenna, such as the
> J-pole will send most of your RF towards the birds instead of the
> horizon. If you want an antenna with a radiating coax cable (by
> lacking a balun), the J-pole is quite appropriate. If you want an
> antenna that produces impressive cloverleaf horizontal gain patterns
> when side mounted on a tower, the J-pole is the hot ticket. The
> J-pole does have one big advantage. It was originally called a Zepp
> antenna, after the Zepplin airship, where the antenna was suspended
> downward. Because the low voltage point is at the base of the
> antenna, there would be no sparks to ignite the hydrogen gas. However,
> if you don't plan on flying your j-pole on a Zepplin, this advantage
> might not be very useful.
> <http://en.wikipedia.org/wiki/J-pole_antenna> (first paragraph)
>
> Please feel free to offer undying praise and monetary renumeration for
> the advice. I'm always open to being paid. There are probably better
> designs but since you've already decided on a J-pole, it's probably
> futile to suggest alternatives. Besides, it might precipitate a
> debate or arguement. Oddly, I learn more from such debates and
> arguments, than from pontifications.
>
> 5/8 wave 6m ground plane:
> <http://802.11junk.com/jeffl/antennas/gnd-plane-02/index.html>
> 5/8 + 5/8 wave 6m ground plane:
> <http://802.11junk.com/jeffl/antennas/gnd-plane-05/index.html>
>
> I would normally offer to build you a NEC2 model of your proposed
> antenna, but since I don't know what diameter aluminum tubing you have
> in mind, and since it's 1:30AM, I'll pass for tonite.
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

All hands

Let me start over. I want a transportable, six meter, vertically
polarized antenna. The parts have to be readily assembled &
disassembled. I would like it to have a somewhat higher than normally
attempted radiation pattern for use between buildings, hills,
ridges... [I had thought that a J-pole might be a good compromise
instead of antennas with a more horizontal gain pattern.] It would be
really golden if the adding of additional parts would change the
pattern back towards the horizontal to use the antenna when it is
located above local horizon. Parts should be short enough to fit in
the foot well of the back seat of an ordinary sedan. It's a stretch
but If it did not need guying that would contribute to ease of
deployment especially in an urban operating location were the
anchoring possibilities for guy lines may be limited. [I'm trying to

devise an X frame tripod. It would be made out of fiberglass structural channel in order to lower the weight of the tripod assembly but that is not an antenna design problem.] I may need the antenna to be elevated when operating near pedestrian traffic to reduce the risk of RF contact or excessive exposure. Shielding the feed point from physical damage; such as by having it inside a piece of Box channel would be quite desirable. I'll leave it there and see what folks can think of that might work.

--
Tom Horne, W3TDH

2737. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 19:10:45 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <jb0mbldkj1@news.jpl.nasa.gov>
Source record: 3339

On 11/28/2011 10:40 AM, Ralph Mowery wrote:
> "Tom Horne"<hornetd@gmail.com> wrote in message
> news:8b22e1d5-907a-4ee6-ab40-4c3333231ab7@o13g2000vbo.googlegroups.com...
>> Can anyone direct me to the dimensions to build a six meter J-pole
>> that is patterned after the Arrow Antenna two meter design that had
>> the feed point at the bottom of one of the elements rather than at a
>> point part way up the height of the matching stub.
>>
>> The reason that I would like to use that design is that I would like
>> to use Rigid Aluminum Conduit to build the antenna. There not being a
>> lot of simple inexpensive fittings for Conduit the way there is for
>> copper pipe a mechanically simpler design would be easier to build.
>>
>> Replies are welcome on or off list. Let me say that I would rather
>> not be subjected to any tirades about the inferiority of the J-pole
>> approach or the superiority of some other antenna design. That does
>> not mean that I am not open to suggestions for a better approach as
>> long as it is civilly stated and I am spared the application of Rant
>> Mode.
>>
>> --
>> Tom Horne, W3TDH
>
> If you have not found anything by now, you may go here for a 2 meter
> version. Then divide the 150 mhz frequency by the 50 mhz frequency and get
> a number near 3. Then multiply ALL the dimensions by that number. That is
> the lengths, diameter of the elements and spacing.
> http://www.w4cll.com/ijpole.html
>

Tom,
how concerned are you about the "match"? What length of coax are you
feeding it with? Do you care if the coax radiates? What bandwidth do
you need? (fat elements have broader bandwidth, for instance). How
rugged does it need to be?

You're looking at something with an overall length around 3 meters/10 feet?

If the j-pole is being done so you have a mechanical support, there are
other ways to approach the problem. I assume you want something that is
"feedline comes out at the bottom", so why not something like a dipole
with the feedline going up inside the bottom half of the dipole? You'd
need something mechanically strong enough to hold the two pieces of
aluminum together that's an insulator. Hose clamps would work to both
make the wiring connection and hold the tubing to the insulator. (I'd

look at a piece of fiberglass or plastic rod of appropriate diameter.)
Since you want to use conduit kinds of things, what about using standard
plastic electrical things. Perhaps a plastic conduit outlet body?
(Cantex PVC conduit body, type C, 1/2" hub, Grainger part #4FYP5, about $5)

Just screw the threaded end of the conduit into the body and you're
done. (If you get the stuff with a removable coupling, especially easy..
10ft stick, saw it in half, and you're almost done)

Do you have test equipment for tuning? Or are you looking for a
cookbook design that you can just build and know it will work as long as
the dimensions match the recipe?

2738. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 19:56:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9FAC4690BB049nonenowhere@88.198.244.100>
Source record: 3338

Tom,

The clever thing with the Arrow implementation is its dual band version where it is mechanically elegant. Does it lend itself to scaling up by near three times?

It isn't clear that you wanted a dual band version, though there are hints.

If you are looking for a single band antenna as implied in the subject...

As you have noted, the total height of the J pole for 6m is a potential issue.

You could look at it as essentially an end fed half wave with a rather large impedance matching device (~1.5m).

There are other more compact ways to impedance match an end fed half wave. The question for you is whether you can devise a robust implementation.

Is there advantage in using aluminium tube over wire? Well, obviously the wire needs support, but perhaps a telescoping fibreglass pole and wire with a matching network in a PVC box is another robust option.

Keep in mind that end feeding a half wave reduces the common mode current flowing to the feedline, the feed point voltage is highest at exactly a half wave. You might find a slightly shorter radiator to deliver most of the 'ground independent' feed, but with slightly less demands on the voltage rating of the matching network. It may be prudent to make your matching network adjustable to provide for locations where proximity to other things changes the tuning.

I said fibreglass (meaning literally glass reinforced plastic), and that doesn't include graphite or carbon fibre. A lot of these fishing poles are now made from graphite, and that introduces potential for loss.

BTW, I am not sure that your 'design' of the pattern is all that sound, however real antennas near lossy soil just don't have very low angle major lobes... so what you want happens for probably any low makeshift antenna.

Owen

2739. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-28 21:49:34 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <0c4e6788-c544-4758-a741-85474e92cb12@s17g2000pra.googlegroups.com>
Source record: 3340

On Nov 28, 10:31 am, Tom Horne <horn...@gmail.com> wrote:
> On Nov 27, 2:53 am, Owen Duffy <n...@no.where> wrote:
>
>
>
>
>
>
>
>
>
>
> > Tom Horne <horn...@gmail.com> wrote in news:8b22e1d5-907a-4ee6-ab40-
> > 4c3333231...@o13g2000vbo.googlegroups.com:
>
> > ...
>
> > > Replies are welcome on or off list. Let me say that I would rather
> > > not be subjected to any tirades about the inferiority of the J-pole
> > > approach or the superiority of some other antenna design. That does
> > > not mean that I am not open to suggestions for a better approach as
> > > long as it is civilly stated and I am spared the application of Rant
> > > Mode.
>
> > It is a sad statement of the state of affairs when you feel a need to
> > compose a help request with such conditions, 40% of your post is setting
> > conditions on your would be helpers responses.
>
> > This is not unusualy, the posts can often can be paraphrased as "I have
> > got this really good idea, and I don't want to hear from anyone that it
> > is less than a really good idea... over".
>
> > Your 40% conditions is by no means a record, higher percentages have
> > been observed on QRZ and eHam, such high percentage as to make the whole
> > thing look like a troll rather than a genuine request for help.
>
> > My own view is that it helps to be a little humble when seeking help.
>
> > Owen
>
> Owen
>
> I apologize for coming across as arrogant. I didn't mean to.
>
> Perhaps it would help to know that I was looking at the J-pole as a

> transportable antenna that would be used when the operating position
> is down in between buildings, ridges, mountains, etc. I did look at
> the online patterns for a J-pole. When I used a diamond ground plane
> under those conditions the results were less than satisfactory. The
> intent is to get the signals up out of the hole. The aluminum conduit
> was because it is much lighter than copper pipe and far less expensive
> at present pricing. I may want to replicate the antenna several times
> if it happens to overcome the problem for the purpose of reliable
> communications outside of simplex two meter range without limiting the
> operator pool to general and above licensees. Also there are several
> places were we could use six meter APRS to collect data from, for just
> example, a temporary stream gauge by installing the gauge in the time
> between a flash flood watch and any subsequent flash flood warning.
> Obviously the temporary gauging point may well contribute to the
> decision as to whether and when to issue the warning. I was thinking
> to use rigid aluminum conduit because of the availability of both
> compression and threaded couplings. I intended to test which coupling
> technique would stand the most bending force on the upper portion of
> the antenna. I already guessed that the antenna might need to be
> guyed but I wanted to try whether using a one inch or even one and a
> quarter inch nominal size would avoid the need for that. Since the
> Arrow Antenna design is fed at the bottom of the shorter matching stub
> I thought it might be easier to transport and deploy without damaging
> it. As for keeping the stub in line with the radiator I had
> envisioned a short piece of 5/8" fiberglass U channel with two
> stainless steel pipe clamps as being robust enough to withstand
> repeated handling. The three quarter wavelength portion of the
> antenna would be fashioned into three nearly equal sized sections for
> ease of transport.
>
> I have constructed a dual half wave collinear J-pole using copper
> pipe. It had given me much better empirical performance than the
> borrowed ground plane that I had used before it. If I could get the
> needed range out of the simple J-pole I was next going to work on the
> physical challenge of building another collinear dual half wave for
> six meters were the second have wave could be added readily for use
> when the antenna would not be located below local horizon.
> --
> Tom Horne, W3TDH

The love-hate relationship with J-poles has been pretty well
documented over the years here on r.r.a.a. My feeling is that you can
resolve that pretty well by decoupling the antenna from the feedline,
and also from other nearby conductors. That's something you want to
do with any antenna, at least where you want to have consistent,
reliable performance in the face of differing feedline and antenna-
support installations. One of the implications here is that you'll
have a non-conductive support for the antenna. You should be able to
get pretty reliable feedline decoupling with a choke in the feedline
where it drops below the antenna, and another a quarter wave below

that. For narrow-band operation (say operation in a band less than 1MHz wide at 50MHz), I'm partial to tuned chokes: a small coil of coax bridged by a capacitor to resonate it at the operating frequency. That's obviously not the only way to do it, but done right, it can give you quite a high impedance in series with the line while adding negligible additional loss due to the slightly longer feedline.

Since a J-pole is nominally 3/4 wave long, at 6 meters wavelength that implies something roughly 4.5 meters, or about 14 feet, long. I guess you can come up with some arrangement of pipes that will fit across the back seat of your car that you can put together to get what you want, maybe four nominally 1/4 wave sections. I wonder, though, if it wouldn't be easier to use telescoping sections of fiberglass (or similar reasonably stiff mast material) that would take you up to where the top of the antenna needs to be, and then just use a wire antenna. Then if there happens to be a natural way to hang the antenna (e.g. from a line tossed over a tree limb), you don't need to bother with setting up any mast + support.

As far as exact dimensions of the antenna itself, given all the good antenna analysis programs out there, I consider that the easy part, but dependent on just how you elect to make it: wire or sections of conductive tubing, and just how you will feed the antenna (tapped up the shorted quarter wave bottom section, or connected to the open bottom of the quarter wave). Pick a mechanical arrangement that works for you, then use a program to come close to the required feed arrangement and details of the element lengths and spacing, then build/measure/trim to get what you want -- if you accept that anything below a 1.5:1 SWR works well, then you will probably have little if any trimming to do, assuming you modeled it accurately.

Cheers,
Tom

2740. Help on Severns equations

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-29 03:16:56 UTC
From: elat <alfmilani@gmail.com>
Message-ID: <e160c35a-ee69-4c20-b21f-d3d1485acede@b32g2000yqn.googlegroups.com>
Source record: 3341

Hi all. My name y Alfred and I am new in this newsgroup.

Would you help me on how to demostrate equations 1 and 2 in page 9
of:Severns article; "Measurement Of Soil Electrical Parameters At HF"
in

http://www.antennasbyn6lf.com/files/ground_parameter_measurements_2.pdf

Thank you very much in advance.

Al

2741. Re: Help on Severns equations

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-29 04:02:41 UTC
From: Jeffrey Angus <grendelair@aim.com>
Message-ID: <jb1lgv$1h5$1@dont-email.me>
Source record: 3342

On 11/28/2011 9:16 PM, elat wrote:
> Hi all. My name y Alfred and I am new in this newsgroup.
>
> Would you help me on how to demostrate equations 1 and 2 in page 9
> of:Severns article; "Measurement Of Soil Electrical Parameters At HF"
> in
>
> http://www.antennasbyn6lf.com/files/ground_parameter_measurements_2.pdf
>
> Thank you very much in advance.
>
> Al

There is table of measured values for R and X on page 10.
Just plug them into the formulas on page 9 and see if you come
up with the same answer for the equations in (1) and (2)

For R = 129 and X = -134

R^2 = 16641
X^2 = 17956
R^2 + X^2 = 34597
R/(R^2 + X^2) = 129/(16641 + 17956) = 129/34597 = 0.0037286
8.84 * 0.0037286 = 0.032961
0.032961 / 7.41 = 0.0044482

Side Note: in the 25 years I worked in the aerospace industry
in Southern California, I ended up chasing Rudy back and forth
across several employers. I finally had the pleasure of meeting
him face to face around 1987.

One of the more interesting things he told me, "When doing your
resume, highlight your accomplishments and gloss over the
aberrations."

Jeff

--
"Everything from Crackers to Coffins"

2742. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-29 05:55:24 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <fb0c5dab-7f9b-41e5-b093-1702281d9340@u6g2000vbg.googlegroups.com>
Source record: 3343

> Tom,
>
> The clever thing with the Arrow implementation is its dual band
> version where it is mechanically elegant. Does it lend itself to
> scaling up by near three times?
>
> It isn't clear that you wanted a dual band version, though there are
> hints.
>
> If you are looking for a single band antenna as implied in the
> subject...
>
Yes I am only concerned with the six meter band.

> As you have noted, the total height of the J pole for 6m is a
> potential issue.
>
> You could look at it as essentially an end fed half wave with a
> rather large impedance matching device (~1.5m).
>
I am told that the matching section could be at ninety degrees to the
radiating element without any loss of function. Can anyone confirm
that this is true.

> There are other more compact ways to impedance match an end fed half
> wave. The question for you is whether you can devise a robust
> implementation.
>
OK You have my attention. I look forward to hearing about them.

> Is there advantage in using aluminum tube over wire? Well, obviously
> the wire needs support, but perhaps a telescoping fibreglass pole and
> wire with a matching network in a PVC box is another robust option.
>
Since it might have to be deployed when nigh winds are expected I
wanted to stay with a self supporting design.

> Keep in mind that end feeding a half wave reduces the common mode
> current flowing to the feedline, the feed point voltage is highest at
> exactly a half wave. You might find a slightly shorter radiator to
> deliver most of the 'ground independent' feed, but with slightly less
> demands on the voltage rating of the matching network. It may be
> prudent to make your matching network adjustable to provide for
> locations where proximity to other things changes the tuning.
>

> I said fibreglass (meaning literally glass reinforced plastic), and
> that doesn't include graphite or carbon fibre. A lot of these fishing
> poles are now made from graphite, and that introduces potential for
> loss.
>
> BTW, I am not sure that your 'design' of the pattern is all that
> sound, however real antennas near lossy soil just don't have very low
> angle major lobes... so what you want happens for probably any low
> makeshift antenna.
>
Are you saying that the J-poles pattern is inappropriate to the task
of getting the signals up out of the hole I would really like to hear
why that is true

> Owen

--
Tom Horne

2743. Re: Noise Tutorials

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-29 06:56:14 UTC
From: Newsgroupie <TI7179@TheSource.com>
Message-ID: <jvv8d792ko1nqhd5bloe7ihhfa0ioclrgi@4ax.com>
Source record: 3344

On Sun, 27 Nov 2011 15:47:19 -0800 (PST), brent <bulegoge@columbus.rr.com>
wrote:

>I have finished two tutorials on noise.
> ....

Great site Brent. Thanks for making your easy to understand tutorials. I can see
I'm going to learn a lot from them.

Bob KB2ZGN

2744. Re: Stub J-pole for six meters

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-30 02:28:35 UTC
From: tom <news4792@taring.org>
Message-ID: <4ed594d7$0$74948$8046368a@newsreader.iphouse.net>
Source record: 3345

>
> All hands
>
> Let me start over. I want a transportable, six meter, vertically
> polarized antenna. The parts have to be readily assembled&
> disassembled. I would like it to have a somewhat higher than normally
> attempted radiation pattern for use between buildings, hills,
> ridges... [I had thought that a J-pole might be a good compromise
> instead of antennas with a more horizontal gain pattern.] It would be
> really golden if the adding of additional parts would change the
> pattern back towards the horizontal to use the antenna when it is
> located above local horizon. Parts should be short enough to fit in
> the foot well of the back seat of an ordinary sedan. It's a stretch
> but If it did not need guying that would contribute to ease of
> deployment especially in an urban operating location were the
> anchoring possibilities for guy lines may be limited. [I'm trying to
> devise an X frame tripod. It would be made out of fiberglass
> structural channel in order to lower the weight of the tripod assembly
> but that is not an antenna design problem.] I may need the antenna to
> be elevated when operating near pedestrian traffic to reduce the risk
> of RF contact or excessive exposure. Shielding the feed point from
> physical damage; such as by having it inside a piece of Box channel
> would be quite desirable. I'll leave it there and see what folks can
> think of that might work.
>
> --
> Tom Horne, W3TDH

Regarding the higher than normal angle request, either

1) make it fairly short so as to approximate an isotropic radiator

2) make it a significant amount longer than a normal J pole so you get
lobes above the horizon. You will need to model this for each concrete
or natural canyon you expect to be in.

And then think a lot more. Possibly a different solution is better.
Different band to start with. I don't know, just trying to stir up your
thinking.

tom
K0TAR

2745. Re: tying off antenna; proper guy wire tying?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-30 12:51:54 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <5fe73a4d-0416-49dd-bfbf-1e7db7bde9c0@n6g2000vbg.googlegroups.com>
Source record: 3346

Basically, however you have to, or can. There's not just 'one way' to do it, it's whatever 'fits' your particular situation. If there's much wind, and if using trees for supports (for example), it's a good idea to 'allow' for some movement (as Sal said). A bucket of rocks, a bungee cord, or tarp strap can work.
- 'Doc

2746. Re: tying off antenna; proper guy wire tying?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-30 14:01:15 UTC
From: dave <dave@dave.dave>
Message-ID: <Vvidna7nRMa2qkvTnZ2dnUVZ_rqdnZ2d@earthlink.com>
Source record: 3347

On Sat, 26 Nov 2011 18:57:40 -0500, Radiohouse wrote:

> Just put up a 80 meter dipole today, but had some difficulty with two
> things: proper tying off of the lift/ support rope and proper tying off
> of the guys. When I say "support rope" here's what I mean: one side of
> the dipole was anchored high in a tree while the other from a 30'
> telephone pole. The tree had a pulley installed, so the "support rope"
> hangs down from there as well as the eye bolt from the telephone pole
> (support rope through the eye bolt). So, I'm not sure where or how to
> tie the support rope ends. Right now, on the tree side, I just have
> several turns around a low branch with a knot; basically the same with
> the telephone pole side. What is the proper way to secure the base of
> the supoort rope?
>
> How do I tie the guy wires?
>
> Thanks for any help.

I use polyester dacron antenna rope. Guy wires are impractical for your application. The dacron will try to untie itself, so flatten the knot with some PVC tape to keep it from unraveling. The tree end needs a short rope with a pulley, and a counterweight on your main antenna rope. Who owns the utility pole?

2747. Re: tying off antenna; proper guy wire tying?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-30 18:00:21 UTC
From: raypsi <rborowiak@gmail.com>
Message-ID: <818f673a-f2a1-49d6-b44a-22ff1305595a@ca1g2000vbb.googlegroups.com>
Source record: 3348

>
> > How do I tie the guy wires?

Hey OM:

I see you has 2 postings here both referring to guy.

At work on the great lakes shipping my foreman always called me guy.
He would say hey guy do this or that. So my question are those my
wires?
That you call guy?
I would use guy ropes rather than guy wire. although you can use wire
but you better has broken it up into lots of pieces.
so they doesn't resonate on the band you are operating on.

73 OT
de n8zu

I

2748. Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-30 21:10:04 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <PYwBq.1840$XA2.1484@newsfe06.iad>
Source record: 3349

I know, off topic but I do get good advice from this group. I will take the mud slinging,,, hope it is mixed in with your regular good information.

I have a back yard garden, I live in Southern Ontario Canada. I roto till it and we grow vegetables like tomato, peppers,

My friends were telling me I should mix in some leaves, my garden is about 20 feet by 20 feet.

I collected about 50 big bags of grinded up leaves and roto tilled them all into my garden. Very light and fluffy now and soft and full of broken down leaves, mostly Maple Leafs and some other varieties.

My question is what should I do? Should I mix in manuer? or furtalizer? Should I do something with this mixture now? Will it be ok on its own after a few years ? will these leaves breakdown on their own? should I put more leaves in? I think 50 bags is a lot.

Any advice or tips is much appreciated. Thank you 73s

2749. Re: Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-11-30 21:40:35 UTC
From: John S <sophi.2@invalid.org>
Message-ID: <jb67slike2@dont-email.me>
Source record: 3350

On 11/30/2011 3:10 PM, Tuuk wrote:
> I know, off topic but I do get good advice from this group. I will take
> the mud slinging,,, hope it is mixed in with your regular good information.
>
>
> I have a back yard garden, I live in Southern Ontario Canada. I roto
> till it and we grow vegetables like tomato, peppers,
>
> My friends were telling me I should mix in some leaves, my garden is
> about 20 feet by 20 feet.
>
> I collected about 50 big bags of grinded up leaves and roto tilled them
> all into my garden. Very light and fluffy now and soft and full of
> broken down leaves, mostly Maple Leafs and some other varieties.
>
> My question is what should I do? Should I mix in manuer? or furtalizer?
> Should I do something with this mixture now? Will it be ok on its own
> after a few years ? will these leaves breakdown on their own? should I
> put more leaves in? I think 50 bags is a lot.
>
> Any advice or tips is much appreciated. Thank you 73s

Check with your local county extension agent.

2750. Re: Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-01 01:08:36 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9FADAE64F31BCgreederxprtnet@94.75.214.90>
Source record: 3251

" Tuuk" <abraaaa@cadabraaaa.ca> wrote in
news:PYwBq.1840$XA2.1484@newsfe06.iad:

> I know, off topic but I do get good advice from this group. I will
> take the mud slinging,,, hope it is mixed in with your regular good
> information.
>
>
> I have a back yard garden, I live in Southern Ontario Canada. I roto
> till it and we grow vegetables like tomato, peppers,
>
> My friends were telling me I should mix in some leaves, my garden is
> about 20 feet by 20 feet.
>
> I collected about 50 big bags of grinded up leaves and roto tilled
> them all into my garden. Very light and fluffy now and soft and full
> of broken down leaves, mostly Maple Leafs and some other varieties.
>
> My question is what should I do? Should I mix in manuer? or
> furtalizer? Should I do something with this mixture now? Will it be ok
> on its own after a few years ? will these leaves breakdown on their
> own? should I put more leaves in? I think 50 bags is a lot.
>
> Any advice or tips is much appreciated. Thank you 73s
>
>

You might want to check with the good folks over at
rec.gardens.edible.
What I do is to leave the leaves on the garden untilled
as mulch. In the spring I will roto-till them in.
Let them sit for a few weeks, then test the soil to
see if any amendments are needed.

2751. Re: Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-01 02:21:51 UTC
From: Sal <sobars@aol.com>
Message-ID: <jb6obq$460$1@dont-email.me>
Source record: 3252

" Tuuk" <abraaaa@cadabraaaa.ca> wrote in message
news:PYwBq.1840$XA2.1484@newsfe06.iad...
>I know, off topic but I do get good advice from this group. I will take the
>mud slinging,,, hope it is mixed in with your regular good information.
>
>
> I have a back yard garden, I live in Southern Ontario Canada. I roto till
> it and we grow vegetables like tomato, peppers,
>
> My friends were telling me I should mix in some leaves, my garden is about
> 20 feet by 20 feet.
>
> I collected about 50 big bags of grinded up leaves and roto tilled them
> all into my garden. Very light and fluffy now and soft and full of broken
> down leaves, mostly Maple Leafs and some other varieties.
>
> My question is what should I do? Should I mix in manuer? or furtalizer?
> Should I do something with this mixture now? Will it be ok on its own
> after a few years ? will these leaves breakdown on their own? should I put
> more leaves in? I think 50 bags is a lot.
>
> Any advice or tips is much appreciated. Thank you 73s
>
>

Compost. It's one of the best "soil amendments" you can have. A composter can be built for a few dollars but you have to attend to it with moisture, aeration and/or tumbling. Google for "homemade composter" and see what others have built. Properly composted material will resemble ashes or dirt, depending on the texture of your source plants.

The leaves will eventually break down on their own and sort of "self-compost" but you can speed the process with a little work. Mix in the compost and it replaces some fertilizers.

Garden centers all sell soil test kits. The results of a test will suggest whether you need supplimental fertilizers.

Manure can be acidic and may do more harm than good. If you compost it, too, it will be less acidic.

Sal

2752. Re: Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-01 02:22:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4ed6e4f4$0$74948$8046368a@newsreader.iphouse.net>
Source record: 3253

On 11/30/2011 3:10 PM, Tuuk wrote:
> I know, off topic but I do get good advice from this group. I will take
> the mud slinging,,, hope it is mixed in with your regular good information.
>
>
> I have a back yard garden, I live in Southern Ontario Canada. I roto
> till it and we grow vegetables like tomato, peppers,
>
> My friends were telling me I should mix in some leaves, my garden is
> about 20 feet by 20 feet.
>
> I collected about 50 big bags of grinded up leaves and roto tilled them
> all into my garden. Very light and fluffy now and soft and full of
> broken down leaves, mostly Maple Leafs and some other varieties.
>
> My question is what should I do? Should I mix in manuer? or furtalizer?
> Should I do something with this mixture now? Will it be ok on its own
> after a few years ? will these leaves breakdown on their own? should I
> put more leaves in? I think 50 bags is a lot.
>
> Any advice or tips is much appreciated. Thank you 73s
>
>

As one other poster suggested, check with your local agri-support folks. I'm from northern NY, FN24, and moved straight west to MN, EN34. When you are this far north you need to know exactly what climate range you are in, and then assume it's a half point to a point worse. Then your plants will usually survive.

You are probably a fraction of a climate zone north of me unless you are tucked in between the ends of Erie and Ontario.

73
tom
K0TAR

2753. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-01 07:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1322722801@panix.com>
Source record: 3254
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.2 2011/11/02 04:08:53
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team had decided to consider |
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. After a successful trial |
period (90 days, through early July 2009), we decided to adopt this |
change permanently. |

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

2754. Re: Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-01 10:15:32 UTC
From: Ozric Terminator <nutcracker@radiowymsey.org>
Message-ID: <jb7k44$1qp$1@dont-email.me>
Source record: 3255

Tuuk wrote:

> My question is what should I do? Should I mix in manuer? or furtalizer?
> Should I do something with this mixture now? Will it be ok on its own
> after a few years ? will these leaves breakdown on their own? should I put
> more leaves in? I think 50 bags is a lot.
>
> Any advice or tips is much appreciated. Thank you 73s

The breakdown of leaves is a dfferent process than that of making compost
and takes a lot longer. You should not add leaves to you soil but in time
the worms will eat it all up.

Use the leaves to make leaf ulch which you can then use on the surface, see
http://www.hereandthere.org/making-mulch/making-mulch-from-leaves.html

Charlie.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

2755. HOT SEX BED ROOM VIDEOS AND 200 BEST ACTRESSES PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-02 15:24:13 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <208c1d65-0176-4048-8279-2673a4783fb3@s4g2000yqk.googlegroups.com>
Source record: 3256

hot videos

real kiss videos
http://videos2youth.blogspot.com/2011/11/real-kiss-videos.html
first night hot videos
http://videos2youth.blogspot.com/2011/11/first-night-hot-videos.html
mallu hot videos
http://videos2youth.blogspot.com/2011/11/mallu-hot-videos.html
indian bedroom hot
http://videos2youth.blogspot.com/2011/11/indian-bedroom-hot.html
romantic videos
http://videos2youth.blogspot.com/2011/11/romantic-videos.html

HOT PHOTOS
lip kiss photos
http://photostwo2u.blogspot.com/2010/09/photos.html
bikini photos
http://photostwo2u.blogspot.com/2010/09/photos-2.html
SEXY PHOTOS
http://photostwo2u.blogspot.com/2010/09/photos-3.html
indian hot photos
http://photostwo2u.blogspot.com

ALL INTERVIEW QUESTIONS

java interview questions
http://allinterviewsquestions.blogspot.com/2009/02/java-interview-questions.html
oracle interview questions
http://allinterviewsquestions.blogspot.com/2009/02/oracle-interview-questions.html
hardware interview questions 4
http://allinterviewsquestions.blogspot.com/2009/02/hardware-interview-questions.html
SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html
dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2756. F.A. TO ALL YOU LAFAYETTE FANS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-03 05:47:29 UTC
From: Steve <kenwood1701@hotmail.com>
Message-ID: <4ed9b7e7$0$2012$607ed4bc@cv.net>
Source record: 3257

I'm posting this for a buddy of mine who can't get newsgroups on his system..

This is an OLD mint portable battery pack, model number HB-506. This is for the HB-525 / 625 radios of the late 1960s.

http://www.ebay.com/itm/130609760136

go to ebay and copy and paste the item number if the link does not work

130609760136

2757. Re: Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-03 13:43:31 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <bIpCq.4496$cN1.3979@newsfe12.iad>
Source record: 3258

Yes, thanks all hams, yes, excellent advice.

I don't want to put in a composting pile as I feel that might attract a lot of mice or animals as my neighbors have told me. I know the pile of leaves gets warm in the middle. One neighbor told me about nitrogen, my situation required nitrogen and the region here has a byproduct from our waste and they call it bio wastes and the farmers line up apparently for it. He said he can give me a couple pails but he says it is very potent or almost 95% nitrogen. And he says the ministry of environment wants to know about it and fill out a bunch of forms.
I like the idea of a composter, easy to do, looks managable. Thanks again hams for the great advice. I know it is off topic but as I said, I get a lot of good advice from this group, the gardening groups are not active or attached to my news server. Much appreciated.

73s and happy holidays

"Ozric Terminator" <nutcracker@radiowymsey.org> wrote in message
news:jb7k44$1qp$1@dont-email.me...
> Tuuk wrote:
>
>
>> My question is what should I do? Should I mix in manuer? or furtalizer?
>> Should I do something with this mixture now? Will it be ok on its own
>> after a few years ? will these leaves breakdown on their own? should I
>> put
>> more leaves in? I think 50 bags is a lot.
>>
>> Any advice or tips is much appreciated. Thank you 73s
>
> The breakdown of leaves is a dfferent process than that of making compost
> and takes a lot longer. You should not add leaves to you soil but in time
> the worms will eat it all up.
>
> Use the leaves to make leaf ulch which you can then use on the surface,
> see
> http://www.hereandthere.org/making-mulch/making-mulch-from-leaves.html
>
>
> Charlie.
>
> --
> M0WYM
> www.radiowymsey.org
>

> Sales @ radiowymsey
> http://shop.ebay.co.uk/gnome7763/m.html?
>
>
>
>

2758. Re: Off topic garden question for the hams please??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-04 13:25:39 UTC
From: dave <dave@dave.dave>
Message-ID: <bOidnUmqrtVO6UbTnZ2dnUVZ_vydnZ2d@earthlink.com>
Source record: 3259

On Sat, 03 Dec 2011 08:43:31 -0500, Tuuk wrote:

> Yes, thanks all hams, yes, excellent advice.
>
> I don't want to put in a composting pile as I feel that might attract a
> lot of mice or animals as my neighbors have told me. I know the pile of
> leaves gets warm in the middle. One neighbor told me about nitrogen, my
> situation required nitrogen and the region here has a byproduct from our
> waste and they call it bio wastes and the farmers line up apparently for
> it. He said he can give me a couple pails but he says it is very potent
> or almost 95% nitrogen. And he says the ministry of environment wants to
> know about it and fill out a bunch of forms.
> I like the idea of a composter, easy to do, looks managable. Thanks
> again hams for the great advice. I know it is off topic but as I said, I
> get a lot of good advice from this group, the gardening groups are not
> active or attached to my news server. Much appreciated.
>
> 73s and happy holidays
>
>
>
>
>
>
> "Ozric Terminator" <nutcracker@radiowymsey.org> wrote in message
> news:jb7k44$1qp$1@dont-email.me...
>> Tuuk wrote:
>>
>>
>>> My question is what should I do? Should I mix in manuer? or
>>> furtalizer? Should I do something with this mixture now? Will it be ok
>>> on its own after a few years ? will these leaves breakdown on their
>>> own? should I put
>>> more leaves in? I think 50 bags is a lot.
>>>
>>> Any advice or tips is much appreciated. Thank you 73s
>>
>> The breakdown of leaves is a dfferent process than that of making
>> compost and takes a lot longer. You should not add leaves to you soil
>> but in time the worms will eat it all up.
>>
>> Use the leaves to make leaf ulch which you can then use on the surface,
>> see
>> http://www.hereandthere.org/making-mulch/making-mulch-from-leaves.html

>>
Turn it when it starts to get warm or you may end up with an ash pile.
Any green waste (no sticks) will feed it. I used neighbors' lawn
trimmings and leaves. I never needed any extra boosters. Only critters
you get is earthworms. Their poop is the fertilizer. I think the nitrate
may inhibit earthworms. Earthworm casting is the fertilizer you get from
a succesful compost situation. Build in on the ground.

2759. Re: F.A. TO ALL YOU LAFAYETTE FANS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-05 01:51:58 UTC
From: Jack
Message-ID: <1p8od7l3ed477sm2ohn4qc73pufgil87aa@4ax.com>
Source record: 3260

On Sat, 03 Dec 2011 00:47:29 -0500, Steve <kenwood1701@hotmail.com> wrote:

>I'm posting this for a buddy of mine who can't get newsgroups on his
>system..
>
>This is an OLD mint portable battery pack, model number HB-506. This is
>for the HB-525 / 625 radios of the late 1960s.
>
>http://www.ebay.com/itm/130609760136
>
>go to ebay and copy and paste the item number if the link does not work
>
>130609760136

Oh boy, CB stuff! Just what every ham dreams of owning. Please.

2760. SOUTH INDIAN HOT ACTRESS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-05 05:14:33 UTC
From: sowmya <sowmya9030@gmail.com>
Message-ID: <5b3a7338-cf65-4231-92c7-41e906c4f13d@c13g2000vbh.googlegroups.com>
Source record: 3261

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

4FRIENDS MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/4-friends-movie-stills.html
NANDEESWARUDU MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/nandeeswarudu-movie-stills.html
HARI PRIYA HOT PHOTO STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/haripariya-actress.html
SHRUTI HASSAN HOT IN 3 MOVIE
http://actressgallery-kalyani.blogspot.com/2011/11/shruti-hassan-in-3-movie.html
PANJA MOVIE LATEST STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/panja-movie-stills.html
URIMI LATEST MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/urimi-movie-stills.html
NIPPU MOVIE WORKING STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/nippu-movie-stills.html
ROUDRAM MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/roudram-movie-stills.html
SIMHAPUTHRUDU MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/simhaputhrudu-movie-stills.html
SOLO MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/solo-movie-stills.html
BEZAWADA MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/bezawada-movie-stills.html
RAJANNA MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/rajanna-movie-stills.html\
POOLARANGADU MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/poolarangadu-movie-stills.html
ILEANA HOT STILLS IN NANBAN MOVIE
http://actressgallery-kalyani.blogspot.com/2011/11/nanban-movie-stills.html
PRIYUDU HOT ROMANTIC STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/priyudu-movie-stills.html
ADHINAYAKUDU LATEST MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/adhinayakudu-movie-stills.html
HOT KATRINA KAIF PHOTOS
http://actressgallery-kalyani.blogspot.com/2011/09/katrina-kaif.html
AISHWARYA RAI HOT HQ PHOTO STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/aishwarya-rai.html
ASIN HOT PHOTO GALLERY
http://actressgallery-kalyani.blogspot.com/2011/09/asin.html
SAKUNI MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/10/sakuni-movie-stills.html
7TH SENSE MOVIE STILLS

http://actressgallery-kalyani.blogspot.com/2011/10/7th-sense-movie-stills.html
MOGUDU MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/mogudu-movie-stills.html
HANSIKA MATOWNI LATEST HOT STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/hansika-motwani.html
KAJAL AGARWAL HOT PHOTOS
http://actressgallery-kalyani.blogspot.com/2011/09/kajal-agarwal.html
TAMANNA SIRUTHAI HOT MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/siruthai-movie-stills.html
SNEHA HOT GOA MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/09/goa-movie-stills.html

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http://allyouwants.blogspot.com/

FOR ONLY HOT GUYS SEE THIS
ADITI AGARWAL NEW ROMANTIC STILLS
http://hotactress-kalyani.blogspot.com/2011/12/aditi-agarwal-hot.html
PAYAL GHOSH HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/11/payal-ghosh-hot.html
RAGINI DWIVEDI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/12/ragini-dwivedi.html
PARVATHI MELTON LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/11/parvathi-melton-hot.html
SARAH JANE DIAS HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/11/sarah-jane-dias-hot.html
KAJAL AGARWAL HOT SAREE STILLS
http://hotactress-kalyani.blogspot.com/2011/11/kajal-agarwal-hot-in-saree.html
POONAM KAUR HOT ROMANTIC STILLS
http://hotactress-kalyani.blogspot.com/2011/11/poonam-kaur-hot.html
AMISHA PATEL LATEST HOT BIKINI STILLS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TRISHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/trisha-hot.html
CHARMI LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/charmi-hot.html
PRIYAMANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/priyamani-hot.html
KAJAL AGARWAL LATEST HOT WITHOUT TOP
http://hotactress-kalyani.blogspot.com/2011/08/kajal-agarwal-hot-photos.html
SAMANTHA LATEST HOT STILLS
http://hotactress-kalyani.blogspot.com/2011/09/samantha-hot.html
SNEHA ULLAL HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/10/sneha-ullal-hot.html
ANJALI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/10/anjali-hot.html
HANSIKA MOTWANI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/10/hansika-motwani-hot.html
PRANITHA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/pranitha-hot.html
HOT KATRINAKAIF WALLPAPERS

http://hotactress-kalyani.blogspot.com/2011/08/katrina-kaif-hot.html
HOT MALLU ACTRESS BHAMA
http://hotactress-kalyani.blogspot.com/2011/09/bhama-hot.html
TOLLYWOOD HOT ACTRESSES
http://hotactress-kalyani.blogspot.com/2011/08/hot-actrsess.html
SONAKSHI SINHA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/09/sonakshi-sinha-hot.html
PRIYANKA CHOPRA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/priyanka-chopra-hot.html
LATEST AMISHA PATEL HOT PICS
http://hotactress-kalyani.blogspot.com/2011/08/amisha-patel-hot.html
TAPSEE DIFFERENT STILLS
http://hotactress-kalyani.blogspot.com/2011/08/tapsee-hot.html
TAMANNA HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/tamanna-hot.html

2761. Re: F.A. TO ALL YOU LAFAYETTE FANS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-05 12:48:46 UTC
From: Audio1 <Audio1@where.net>
Message-ID: <u43Dq.6710$U16.2836@newsfe15.iad>
Source record: 3262

On 12/4/2011 8:51 PM, Jack wrote:
> On Sat, 03 Dec 2011 00:47:29 -0500, Steve<kenwood1701@hotmail.com> wrote:
>
>> I'm posting this for a buddy of mine who can't get newsgroups on his
>> system..
>>
>> This is an OLD mint portable battery pack, model number HB-506. This is
>> for the HB-525 / 625 radios of the late 1960s.
>>
>> http://www.ebay.com/itm/130609760136
>>
>> go to ebay and copy and paste the item number if the link does not work
>>
>> 130609760136
>
> Oh boy, CB stuff! Just what every ham dreams of owning. Please.

Nothing good on TV last night?

You're an asshole, Jack.

2762. Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-05 17:01:15 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jbiti4$j2d$1@dont-email.me>
Source record: 3263

I am using a whip antenna mounted on a metal patio cover. Results are good on 10 and 12 meters, and contacts have been made down to 40 meters. (Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a longer whip is under consideration). It is fed through an antenna tuner and about 25 feet of RG-58. I'm about to replace that with RG-8.

Any comments on how to hold down feedline losses. One suggestion is to use two parallel lengths of RG-8 so that half the current runs through each. Also, site geometry would allow open wire feed.

Possibilities?

2763. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-05 17:54:08 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <1f0qd79ofgk0f9eu38s9iqqv7hdt12jskr@4ax.com>
Source record: 3264

On Mon, 5 Dec 2011 09:01:15 -0800, "Wayne" <mygarbagecan@verizon.net>
wrote:

>I am using a whip antenna mounted on a metal patio cover. Results are good
>on 10 and 12 meters, and contacts have been made down to 40 meters.
>(Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a
>longer whip is under consideration). It is fed through an antenna tuner and
>about 25 feet of RG-58. I'm about to replace that with RG-8.
>
>Any comments on how to hold down feedline losses. One suggestion is to use
>two parallel lengths of RG-8 so that half the current runs through each.
>Also, site geometry would allow open wire feed.
>
>Possibilities?

Sorry, Parallel cables would give you twice the losses. Also, what it
would do for matching will vary by frequency but not likely anything
you want. Lower loss coax is always a good idea but with only 25 feet
total your losses may not be enough to notice. Vertical antennas are
usually at their best at 1/4 wave length long for the purpose of
radiation. In practice, if you get it tuned up well enough to take
power, it will work!

I have a 28 foot vertical antenna that sometimes outperfoms my 3
element beam. It is tuned with an SGC autotuner.

There is a lot of information on the internet for free, Google a bit
and keep at it. I seem to enjoy working on antennas more than using
them.

BTW, Check out the ARRL.NET site. There is a 10 meter contest in a
week or so that your antenna will around the world...
John Ferrell W8CCW

2764. Re: tying off antenna; proper guy wire tying?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-05 19:06:54 UTC
From: "Myron A. Calhoun" <mcalhoun@sdf.org>
Message-ID: <jbj4oe$464$1@odin.sdf-eu.org>
Source record: 3265

I use screen-door spring(s) at each end of my wire antennas to permit tree/limb movement without stretching the antennas. You should be able to buy such springs in several strengths at 'most any hardware store (probably even WalMart or K-Mart) in the USA. If I think one spring might not be strong enough for a particularly-heavy antenna, I just parallel two springs.

Of course, the springs are between the antenna insulators and the ropes used to pull/tighten the antennas.

If you do use weighted buckets, be sure to tie ANOTHER rope to the bucket and a nearby limb so the bucket won't fall on someone's head if the antenna rope or wire breaks!

--W0PBV.

2765. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-05 21:24:12 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <7-WdndT-8Lbnq0DTnZ2dnUVZ_rWdnZ2d@earthlink.com>
Source record: 3266

"Wayne" <mygarbagecan@verizon.net> wrote in message
news:jbiti4$j2d$1@dont-email.me...
>I am using a whip antenna mounted on a metal patio cover. Results are good
>on 10 and 12 meters, and contacts have been made down to 40 meters.
>(Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a
>longer whip is under consideration). It is fed through an antenna tuner
>and about 25 feet of RG-58. I'm about to replace that with RG-8.
>
> Any comments on how to hold down feedline losses. One suggestion is to
> use two parallel lengths of RG-8 so that half the current runs through
> each. Also, site geometry would allow open wire feed.
>
> Possibilities?

As John mentioned, 25 feet of coax is too low of a loss to worry about
especially below 30 Mhz. The other best bet is to use a remote antenna
tuner at the antenna. A longer antenna should work much beter on 80 and 40
meters.

2766. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 00:42:05 UTC
From: "J. C. Mc Laughlin" <jcm@power-net.net>
Message-ID: <hLydnY3xjYNC-UDTnZ2dnUVZ_oudnZ2d@bright.net>
Source record: 3267

Dear Wayne (no call sign given): The use of "it" causes an ambiguity. If the antenna tuner is "at" the antenna feed point, then 25 feet of RG-58 running to the shack will contribute very little to the overall loss of the system.

A colleague has had success with an insulated wire on his roof fed in the middle with an auto-tuner. The coax from the tuner has several type 31 chokes to kill common mode and the coax itself contributes very little to the performance of the system.

On the other hand, such a short antenna as you are using (on the lower bands) fed with RG-58 from a tuner in the shack is expected to have significant losses. If this is the case, moving the tuner outside should be tried.

73, Mac N8TT

"Wayne" wrote in message news:jbiti4$j2d$1@dont-email.me...

I am using a whip antenna mounted on a metal patio cover. Results are good on 10 and 12 meters, and contacts have been made down to 40 meters. (Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a longer whip is under consideration). It is fed through an antenna tuner and about 25 feet of RG-58. I'm about to replace that with RG-8.

Any comments on how to hold down feedline losses. One suggestion is to use two parallel lengths of RG-8 so that half the current runs through each. Also, site geometry would allow open wire feed.

Possibilities?

J. C. Mc Laughlin
Michigan U.S.A.
Home: JCM@Power-Net.Net

2767. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 02:45:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9FB38BFDC863Fnonenowhere@88.198.244.100>
Source record: 3268

"Wayne" <mygarbagecan@verizon.net> wrote in
news:jbiti4$j2d$1@dont-email.me:

> I am using a whip antenna mounted on a metal patio cover. Results are
> good on 10 and 12 meters, and contacts have been made down to 40
> meters. (Matches were not obtained on 15 or 30 meters) The whip is 8.5
> ft long (a longer whip is under consideration). It is fed through an
> antenna tuner and about 25 feet of RG-58. I'm about to replace that
> with RG-8.

Taking this to mean that the ATU is at the tx end of the 25' of RG58...

It is challenging with that topology get get good antenna system
efficiency when the monopole is less than about 17% of a wavelength.
Working that backwards, your 2.6m whip is 17% of a wavelenght on 15m
wavelength or 20MHz.

The contributions to poor efficiency are feed line loss under standing
waves, ATU loss, and if the whip is magnetic stainless, conductor losses
in the whip.

RG8 will have lower losses, but the result will be a more challenging
load for the ATU and its losses will increase, consuming some of the
benefit.

You really need to take a system perspective because there is a complex
interaction of the system components.

>
> Any comments on how to hold down feedline losses. One suggestion is
> to use two parallel lengths of RG-8 so that half the current runs
> through each. Also, site geometry would allow open wire feed.

Paralelling two cables reduces Zo to one half, but the matched loss per
metre is the same. The loss under standing waves depends on the actual
load impedance which you probably don't know.

>
> Possibilities?
>

A remote ATU, a longer monopole.

Owen

2768. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 02:50:53 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jbjvuh$jq1$1@dont-email.me>
Source record: 3269

"J. C. Mc Laughlin" wrote in message
news:hLydnY3xjYNC-UDTnZ2dnUVZ_oudnZ2d@bright.net...

>Dear Wayne (no call sign given): The use of "it" causes an ambiguity. If
>the antenna tuner is "at" the antenna feed point, then 25 feet of RG-58
>running to the shack will contribute very little to the overall loss of the
>system.
>
>A colleague has had success with an insulated wire on his roof fed in the
>middle with an auto-tuner. The coax from the tuner has several type 31
>chokes to kill common mode and the coax itself contributes very little to
>the performance of the system.
>
>On the other hand, such a short antenna as you are using (on the lower
>bands) fed with RG-58 from a tuner in the shack is expected to have
>significant losses. If this is the case, moving the tuner outside should
>be tried.
>73, Mac N8TT
>
-
Yes, the wording is confusing. The antenna is fed with about 25 feet of
RG-58 with the tuner next to the rig in the shack. The cable will be
changed to RG-8 tomorrow assuming that the winds finally die down here in So
Cal.

On 10 and 12 meters the performance is quite acceptable. I'm not the big
signal on the band, but it works well.

I'm hoping to slightly lengthen the antenna and get performance from 17 to
10 meters. Since the tuner to antenna VSWR will be very high, I'm pondering
ways of lowering the loss.

A separate loaded whip is used on 20 and 40 meters.

So far, the experiment has been good, and it is one of the few antenna
configurations that meet the established requirements. (established by the
xyl) :)

Thanks
Wayne
W5GIE /6

>>"Wayne" wrote in message news:jbiti4$j2d$1@dont-email.me...
>>
>>I am using a whip antenna mounted on a metal patio cover. Results are
>>good

>>on 10 and 12 meters, and contacts have been made down to 40 meters.
>>(Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a
>>longer whip is under consideration). It is fed through an antenna tuner
>>and
>>about 25 feet of RG-58. I'm about to replace that with RG-8.
>>
>>Any comments on how to hold down feedline losses. One suggestion is to
>>use
>>two parallel lengths of RG-8 so that half the current runs through each.
>>Also, site geometry would allow open wire feed.
>>
>>Possibilities?

2769. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 08:33:05 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <UIl7DwGBNd3OFwJC@g3ohx.demon.co.uk>
Source record: 3270

In message <1f0qd79ofgk0f9eu38s9iqqv7hdt12jskr@4ax.com>, John Ferrell
<jferrell13@triad.rr.com> writes
>

>
>>

>>

>
>

>Vertical antennas are
>usually at their best at 1/4 wave length long for the purpose of
>radiation. In practice, if you get it tuned up well enough to take
>power, it will work!
>
Actually a 5/8 wavelength is what gives the most poke in the horizontal
direction.

>
>

--
Ian

2770. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 09:38:56 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <$YZxHDIwKe3OFwcg@g3ohx.demon.co.uk>
Source record: 3271

In message <Xns9FB38BFDC863Fnonenowhere@88.198.244.100>, Owen Duffy
<none@no.where> writes
>"Wayne" <mygarbagecan@verizon.net> wrote in
>news:jbiti4$j2d$1@dont-email.me:
>
>> I am using a whip antenna mounted on a metal patio cover. Results are
>> good on 10 and 12 meters, and contacts have been made down to 40
>> meters. (Matches were not obtained on 15 or 30 meters) The whip is 8.5
>> ft long (a longer whip is under consideration). It is fed through an
>> antenna tuner and about 25 feet of RG-58. I'm about to replace that
>> with RG-8.
>
>Taking this to mean that the ATU is at the tx end of the 25' of RG58...
>
>It is challenging with that topology get get good antenna system
>efficiency when the monopole is less than about 17% of a wavelength.
>Working that backwards, your 2.6m whip is 17% of a wavelenght on 15m
>wavelength or 20MHz.
>
>The contributions to poor efficiency are feed line loss under standing
>waves, ATU loss, and if the whip is magnetic stainless, conductor losses
>in the whip.
>
>RG8 will have lower losses, but the result will be a more challenging
>load for the ATU and its losses will increase, consuming some of the
>benefit.
>
>You really need to take a system perspective because there is a complex
>interaction of the system components.
>
>>
>> Any comments on how to hold down feedline losses. One suggestion is
>> to use two parallel lengths of RG-8 so that half the current runs
>> through each. Also, site geometry would allow open wire feed.
>
>Paralelling two cables reduces Zo to one half, but the matched loss per
>metre is the same. The loss under standing waves depends on the actual
>load impedance which you probably don't know.
>
>>
>> Possibilities?
>>
>
>A remote ATU, a longer monopole.

>
The OP seems to be doing what I did for many years, ie feed an endfed monopole antenna (of undefined length) with coax, and force match it, as required, at the shack end. [I believe it was you, Owen, who pointed out my error in trying to use the graphs showing loss vs SWR when the coax is electrically short (less than a wavelength.]

Although I now have a remote tuner at the antenna feedpoint, I can't say I've noticed an outstanding improvement in performance (although, to be honest, I really haven't really done a lot of operating since I installed the tuner).

If you don't want use a remote tuner at the antenna feedpoint, the impedance at the shack end of the coax will be the antenna feed impedance, transformed by the length of the coax, and also altered by the loss in the coax. Provided the shack-end tuner can be persuaded to match the impedance seen looking into the coax, the system will work tolerably well with low-loss coax.

It is obviously advantageous to use the lowest loss coax you can lay your hands on. As, in cable TV systems, long coaxial trunk lines have now been superseded by optical fibers, I would suggest that a cable TV operator might be persuaded to donate some nice chunky coax (preferably "as thick as a horse's prick", as one of my bosses once described it). Failing that, just go for the best you can get.
--
Ian

2771. hi

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 10:32:45 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <0a7e71f4-bc8b-416b-bd3d-ddb277981472@y7g2000vbe.googlegroups.com>
Source record: 3272

Sports News
http://super1213.blogspot.com

Top Marketting
http://market78.blogspot.com

List of Dogs Breeds Images and Videos
http://dogbreedspk.blogspot.com

Fashion Life Style
http://fashion1299.blogspot.com

WORLD FASHION
http://styles33.blogspot.com

SPORTS WORLD
http://sports7833.blogspot.com

Jewellery World
http://jewellery3377.blogspot.com

HENNA DESIGNS
http://henna33.blogspot.com

2772. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 15:44:55 UTC
From: Wond <gboot.phil@gmx.com>
Message-ID: <jbld9m$rr2$1@dont-email.me>
Source record: 3273

On Mon, 05 Dec 2011 18:50:53 -0800, Wayne wrote:

> "J. C. Mc Laughlin" wrote in message
> news:hLydnY3xjYNC-UDTnZ2dnUVZ_oudnZ2d@bright.net...
>
>>Dear Wayne (no call sign given): The use of "it" causes an ambiguity.
>>If the antenna tuner is "at" the antenna feed point, then 25 feet of
>>RG-58 running to the shack will contribute very little to the overall
>>loss of the system.
>>
>>A colleague has had success with an insulated wire on his roof fed in
>>the middle with an auto-tuner. The coax from the tuner has several type
>>31 chokes to kill common mode and the coax itself contributes very
>>little to the performance of the system.
>>
>>On the other hand, such a short antenna as you are using (on the lower
>>bands) fed with RG-58 from a tuner in the shack is expected to have
>>significant losses. If this is the case, moving the tuner outside
>>should be tried.
>>73, Mac N8TT
>>
> -
> Yes, the wording is confusing. The antenna is fed with about 25 feet of
> RG-58 with the tuner next to the rig in the shack. The cable will be
> changed to RG-8 tomorrow assuming that the winds finally die down here
> in So Cal.
>
> On 10 and 12 meters the performance is quite acceptable. I'm not the
> big signal on the band, but it works well.
>
> I'm hoping to slightly lengthen the antenna and get performance from 17
> to 10 meters. Since the tuner to antenna VSWR will be very high, I'm
> pondering ways of lowering the loss.
>
> A separate loaded whip is used on 20 and 40 meters.
>
> So far, the experiment has been good, and it is one of the few antenna
> configurations that meet the established requirements. (established by
> the xyl) :)
>
> Thanks
> Wayne
> W5GIE /6
>

>
>
>
>
>
>
>
>>>"Wayne" wrote in message news:jbiti4$j2d$1@dont-email.me...
>>>
>>>I am using a whip antenna mounted on a metal patio cover. Results are
>>>good
>>>on 10 and 12 meters, and contacts have been made down to 40 meters.
>>>(Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long
>>>(a longer whip is under consideration). It is fed through an antenna
>>>tuner and
>>>about 25 feet of RG-58. I'm about to replace that with RG-8.
>>>
>>>Any comments on how to hold down feedline losses. One suggestion is to
>>>use
>>>two parallel lengths of RG-8 so that half the current runs through
>>>each. Also, site geometry would allow open wire feed.
>>>
>>>Possibilities?

If its an autotuner, best place for it is at the base of the vertical.

2773. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 16:11:47 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <TZ-dnQpUiMJfo0PTnZ2dnUVZ_qudnZ2d@earthlink.com>
Source record: 3274

"Ian Jackson" <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in message
news:$YZxHDIwKe3OFwcg@g3ohx.demon.co.uk...
> In message <Xns9FB38BFDC863Fnonenowhere@88.198.244.100>, Owen Duffy
> <none@no.where> writes
>>"Wayne" <mygarbagecan@verizon.net> wrote in
>>news:jbiti4$j2d$1@dont-email.me:
>>
>>> I am using a whip antenna mounted on a metal patio cover. Results are
>>> good on 10 and 12 meters, and contacts have been made down to 40
>>> meters. (Matches were not obtained on 15 or 30 meters) The whip is 8.5
>>> ft long (a longer whip is under consideration). It is fed through an
>>> antenna tuner and about 25 feet of RG-58. I'm about to replace that
>>> with RG-8.
>
> It is obviously advantageous to use the lowest loss coax you can lay your
> hands on. As, in cable TV systems, long coaxial trunk lines have now been
> superseded by optical fibers, I would suggest that a cable TV operator
> might be persuaded to donate some nice chunky coax (preferably "as thick
> as a horse's prick", as one of my bosses once described it). Failing that,
> just go for the best you can get.
> --
> Ian

Way too much time and money is being wasted in the change over from the rg58 coax. Even with a 20 to 1 SWR the rg-58 will loose about 3 db of signal due to the large mismatch. the rg-8 will still loose atleast 1 db. This 'big' gain of 2 db is hardly worth it. More time and money should be put into a beter antenna. Maybe one of the trap type verticals that is 30 or more feet tall. You gain by a beter radiation efficency and at the same time cut the loss in the coax due to the beter match. Even the screwdriver type antenna would probably be much beter. With that you get rid of the losses in the antenna tuner.

2774. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 17:48:24 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jblkhdemd1@dont-email.me>
Source record: 3275

"Owen Duffy" wrote in message
news:Xns9FB38BFDC863Fnonenowhere@88.198.244.100...

"Wayne" <mygarbagecan@verizon.net> wrote in
news:jbiti4$j2d$1@dont-email.me:

> I am using a whip antenna mounted on a metal patio cover. Results are
> good on 10 and 12 meters, and contacts have been made down to 40
> meters. (Matches were not obtained on 15 or 30 meters) The whip is 8.5
> ft long (a longer whip is under consideration). It is fed through an
> antenna tuner and about 25 feet of RG-58. I'm about to replace that
> with RG-8.

Taking this to mean that the ATU is at the tx end of the 25' of RG58...

It is challenging with that topology get get good antenna system
efficiency when the monopole is less than about 17% of a wavelength.
Working that backwards, your 2.6m whip is 17% of a wavelenght on 15m
wavelength or 20MHz.

The contributions to poor efficiency are feed line loss under standing
waves, ATU loss, and if the whip is magnetic stainless, conductor losses
in the whip.

RG8 will have lower losses, but the result will be a more challenging
load for the ATU and its losses will increase, consuming some of the
benefit.

You really need to take a system perspective because there is a complex
interaction of the system components.

>
> Any comments on how to hold down feedline losses. One suggestion is
> to use two parallel lengths of RG-8 so that half the current runs
> through each. Also, site geometry would allow open wire feed.

Paralelling two cables reduces Zo to one half, but the matched loss per
metre is the same. The loss under standing waves depends on the actual
load impedance which you probably don't know.

>
> Possibilities?
>

A remote ATU, a longer monopole.

Owen
****

-
Thanks Owen. As usual, good information.
For clarification, there are two antennas. One is a bugcatcher type whip covering 40, 30, and 20. That part of the "farm" is working well. and requires no tuner.

The other is for 17 through 10 meters and is the one that will be a single short radiator with tuner in the shack. An 8 foot whip is currently used, but the max acceptable length will probably be in the 11 foot range. A longer radiator (than about 11 feet) is not "permitted", and a remote ATU is possible, but not desired. Feedline loss for this antenna was the subject of the original post.

Thanks again.
Wayne
W5GIE

2775. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 21:34:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9FB4572B2B02Bnonenowhere@88.198.244.100>
Source record: 3276

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in
news:TZ-dnQpUiMJfo0PTnZ2dnUVZ_qudnZ2d@earthlink.com:

...
> Way too much time and money is being wasted in the change over from
> the rg58 coax. Even with a 20 to 1 SWR the rg-58 will loose about 3
> db of signal due to the large mismatch.

The OP mentioned a 2.5m whip down to 40m. VSWR(50) of such a thing is likely to be around 1000 so your estimates of loss for VSWR(50) are not applicable to that scenario. (Estimating loss based on VSWR is prone to error in any event.)

An NEC model suggests that feedpoint Z might be something like 10-j800. Taking that for example with 25' of RG58, line loss is more like 17dB.

RG213 is better, but it does not solve the fundamental problem that R at the feedpoint is very low, and a large current is required to deliver power. Large currents contribute to high loss in feedlines.

Owen

2776. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 21:39:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9FB458098F9B0nonenowhere@88.198.244.100>
Source record: 3277

"Wayne" <mygarbagecan@verizon.net> wrote in
news:jblkhdemd1@dont-email.me:

...
> For clarification, there are two antennas. One is a bugcatcher type
> whip covering 40, 30, and 20. That part of the "farm" is working
> well. and requires no tuner.

Go back and read what you wrote:

===
I am using a whip antenna mounted on a metal patio cover. Results are
good
on 10 and 12 meters, and contacts have been made down to 40 meters.
(Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long
(a
longer whip is under consideration). It is fed through an antenna tuner
and
about 25 feet of RG-58. I'm about to replace that with RG-8.
===

No mention of loading coils, other antennas and you make specific
mention of using this antenna on 40m (QSOs offered as evidence,
notwithstanding that EIRP is probably very low due to extreme line loss
as calculated in another post).

If you can't express the scenario clearly, the advice you get is even
less reliable!

Owen

2777. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-06 21:55:42 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <IMqdndgKaIEWDUPTnZ2dnUVZ_oednZ2d@earthlink.com>
Source record: 3278

"Owen Duffy" <none@no.where> wrote in message
news:Xns9FB4572B2B02Bnonenowhere@88.198.244.100...
> "Ralph Mowery" <rmowery28146@earthlink.net> wrote in
> news:TZ-dnQpUiMJfo0PTnZ2dnUVZ_qudnZ2d@earthlink.com:
>
> ...
>> Way too much time and money is being wasted in the change over from
>> the rg58 coax. Even with a 20 to 1 SWR the rg-58 will loose about 3
>> db of signal due to the large mismatch.
>
> The OP mentioned a 2.5m whip down to 40m. VSWR(50) of such a thing is
> likely to be around 1000 so your estimates of loss for VSWR(50) are not
> applicable to that scenario. (Estimating loss based on VSWR is prone to
> error in any event.)
>
> An NEC model suggests that feedpoint Z might be something like 10-j800.
> Taking that for example with 25' of RG58, line loss is more like 17dB.
>
> RG213 is better, but it does not solve the fundamental problem that R at
> the feedpoint is very low, and a large current is required to deliver
> power. Large currents contribute to high loss in feedlines.
>
> Owen

The whole point was that going from rg-58 to rg-8 or the rg-213 or lmr-400
would not make hardly any differant. While the loss may be something like
17 db in the rg-58, it would still not be beter than 3 db going to another
type of 50 ohm coax.

2778. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-07 02:22:33 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jbmiphtbt1@dont-email.me>
Source record: 3279

"Owen Duffy" wrote in message
news:Xns9FB458098F9B0nonenowhere@88.198.244.100...

"Wayne" <mygarbagecan@verizon.net> wrote in
news:jblkhdemd1@dont-email.me:

...
>> For clarification, there are two antennas. One is a bugcatcher type
>> whip covering 40, 30, and 20. That part of the "farm" is working
>>> well. and requires no tuner.

>Go back and read what you wrote:
>
>===
>I am using a whip antenna mounted on a metal patio cover. Results are
>good
>on 10 and 12 meters, and contacts have been made down to 40 meters.
>(Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long
>(a
>longer whip is under consideration). It is fed through an antenna tuner
>and
>about 25 feet of RG-58. I'm about to replace that with RG-8.
>===
>
>No mention of loading coils, other antennas and you make specific
>mention of using this antenna on 40m (QSOs offered as evidence,
>notwithstanding that EIRP is probably very low due to extreme line loss
>as calculated in another post).
>
>If you can't express the scenario clearly, the advice you get is even
>less reliable!
>
>Owen
-
You are right. I should have simply asked "how does one lower real world
transmission line loss when the VSWR is high", and skipped the commentary.

2779. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-07 07:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1323241500@panix.com>
Source record: 3280
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

2780. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-08 04:17:23 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <03f7191c-9c4b-475e-8127-e4ba2f993b9d@r28g2000yqj.googlegroups.com>
Source record: 3281

On Dec 5, 12:01 pm, "Wayne" <mygarbage...@verizon.net> wrote:
> I am using a whip antenna mounted on a metal patio cover. Results are good
> on 10 and 12 meters, and contacts have been made down to 40 meters.
> (Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a
> longer whip is under consideration). It is fed through an antenna tuner and
> about 25 feet of RG-58. I'm about to replace that with RG-8.
>
> Any comments on how to hold down feedline losses. One suggestion is to use
> two parallel lengths of RG-8 so that half the current runs through each.
> Also, site geometry would allow open wire feed.
>
> Possibilities?

Years ago I had put up a similar antenna to be able to get onto the
local 10M net. I then as you have tried to tune it up on other bands
after upgrading from Tech+ to General and got similar results to what
you have discribed. Changing the radiator to 5/8 wl on 10M improved
operation of the antenna not so noticably on 10M as it did the other
bands. Good luck, have fun and learn.

Jimmie

2781. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-08 10:01:57 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jbq1urdka1@dont-email.me>
Source record: 3282

"JIMMIE" wrote in message
news:03f7191c-9c4b-475e-8127-e4ba2f993b9d@r28g2000yqj.googlegroups.com...

On Dec 5, 12:01 pm, "Wayne" <mygarbage...@verizon.net> wrote:
>> I am using a whip antenna mounted on a metal patio cover. Results are
>> good
>> on 10 and 12 meters, and contacts have been made down to 40 meters.
>> (Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a
>> longer whip is under consideration). It is fed through an antenna tuner
>> and
>> about 25 feet of RG-58. I'm about to replace that with RG-8.
>>
>> Any comments on how to hold down feedline losses. One suggestion is to
>> use
>> two parallel lengths of RG-8 so that half the current runs through each.
>> Also, site geometry would allow open wire feed.
>>
>> Possibilities?

>Years ago I had put up a similar antenna to be able to get onto the
>local 10M net. I then as you have tried to tune it up on other bands
>after upgrading from Tech+ to General and got similar results to what
>you have discribed. Changing the radiator to 5/8 wl on 10M improved
>operation of the antenna not so noticably on 10M as it did the other
>bands. Good luck, have fun and learn.
>
>Jimmie
-
So far it has been fun. I've been able to check out the antenna on 10 and
12 and it works well. I need to fix a rig problem before 15 testing. 17 is
working, but propagation hasn't been good enough for much testing.

Tests on 20, 30, and 40 yielded qsos, but with low signal reports. Those
bands have been written off for the tuner/coax/whip. However, I'll try 20
again if I get a longer radiator up.

Wayne
W5GIE
exiled to W6 land :)

2782. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-08 13:00:49 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <bdec1cc1-4d78-443b-9c6b-96ad09b140b1@c18g2000yqj.googlegroups.com>
Source record: 3283

On Dec 8, 4:01 am, "Wayne" <mygarbage...@verizon.net> wrote:
> However, I'll try 20 again if I get a longer radiator up.

5/8WL on 10m is ~0.3 WL (> 1/4WL) on 20m so it will have an
inductively reactive feedpoint impedance around 78+j200. A series
capacitor of ~56 pf at the feedpoint on 20m should result in an SWR on
the coax of ~1.5:1.
--
73, Cecil, w5dxp.com

2783. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-08 15:37:43 UTC
From: Edwin Johnson <edwinljohnson@bellsouth.net>
Message-ID: <jbqlk7$33t$1@speranza.aioe.org>
Source record: 3284

On 2011-12-08, Wayne <mygarbagecan@verizon.net> wrote:
>
> On Dec 5, 12:01 pm, "Wayne" <mygarbage...@verizon.net> wrote:
>>> I am using a whip antenna mounted on a metal patio cover. Results are
>>> good
>>> on 10 and 12 meters, and contacts have been made down to 40 meters.
>>> (Matches were not obtained on 15 or 30 meters) The whip is 8.5 ft long (a
>>> longer whip is under consideration). It is fed through an antenna tuner
> Wayne
> W5GIE

Something for consideration for lengthing the whip: Buy a 3 or 4 ft 3/8 inch aluminum rod from local hardware store and thread it on both ends with 3/8x24. Use a coupler nut to fit it to the bottom of the whip. I've used this technique with mobile antennas and seems to work fine.

Also, you mentioned the ability to use open wire/ladder line. Wonder if you considered ladder line to a 4:1 balun and then short coax to tuner? I'm not sure that presently with such a short run of coax to the patio you would gain much, but for longer runs, it would definitely be a consideration.

73 ...Edwin, KD5ZLB

"Once you have flown, you will walk the earth with your eyes
turned skyward, for there you have been, there you long to
return."-da Vinci http://bellsouthpwp2.net/e/d/edwinljohnson

2784. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-08 17:26:03 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jbqrvg$vk7$1@dont-email.me>
Source record: 3285

"W5DXP" wrote in message
news:bdec1cc1-4d78-443b-9c6b-96ad09b140b1@c18g2000yqj.googlegroups.com...

On Dec 8, 4:01 am, "Wayne" <mygarbage...@verizon.net> wrote:
>> However, I'll try 20 again if I get a longer radiator up.
>
>5/8WL on 10m is ~0.3 WL (> 1/4WL) on 20m so it will have an
>inductively reactive feedpoint impedance around 78+j200. A series
>capacitor of ~56 pf at the feedpoint on 20m should result in an SWR on
>the coax of ~1.5:1.
>--
>73, Cecil, w5dxp.com
-
Thanks for the info Cecil. It turns out that a 10m 5/8 would be too long to meet the wife's "requirements".

I haven't gotten into describing the antenna "problem" in detail, but here is a synopsis:
Space is available for 2 verticals to be mounted on top of a metal patio cover, and they should not be prominently visible. That limits the total length of each to about 11-12 feet. A base mounted remote antenna tuner is not desired.

Band coverage is desired for 40 through 10 meter cw. One antenna, a 11 foot bugcatcher, is used on 40/30/20. The other antenna that is being pondered has a configuration of tuner/ 25 ft of coax/11 ft whip, tunable at least from 10 through 17 meters....thus the interest in low feedline loss.

With further consideration it appears that the loss in 25 ft of coax is not a game changer. Experimentation continues, and results are positive so far.

Wayne
W5GIE

2785. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-09 00:02:30 UTC
From: W5DXP <w5dxp@hotmail.com>
Message-ID: <6a30e8b1-e33e-4325-8193-2b63d4d43412@x7g2000yqb.googlegroups.com>
Source record: 3286

On Dec 8, 11:26 am, "Wayne" <mygarbage...@verizon.net> wrote:
> It turns out that a 10m 5/8 would be too long to meet the wife's "requirements".

Humor mode on: I had the same problem so I upgraded to a better
wife. :)
--
73, Cecil, w5dxp.com

2786. Re: Feedline suggestions?

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-09 01:13:13 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jbrnbf$281$1@dont-email.me>
Source record: 3287

"W5DXP" wrote in message
news:6a30e8b1-e33e-4325-8193-2b63d4d43412@x7g2000yqb.googlegroups.com...

On Dec 8, 11:26 am, "Wayne" <mygarbage...@verizon.net> wrote:
>> It turns out that a 10m 5/8 would be too long to meet the wife's
>> "requirements".
>
>Humor mode on: I had the same problem so I upgraded to a better
>wife. :)
>--
>73, Cecil, w5dxp.com
-
LOL......
Well, after 40 years with this one, I might as well stick with it. BUT,
I'll never get married again. I'll just find some woman I hate and buy her
a house.

73
Wayne
W5GIE

2787. Re: F.A. TO ALL YOU LAFAYETTE FANS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-10 03:50:40 UTC
From: kb2zgn
Message-ID: <vbl5e71gd824ovt2antov18faa4o8j9ppb@4ax.com>
Source record: 3288

On Sat, 03 Dec 2011 00:47:29 -0500, Steve <kenwood1701@hotmail.com> wrote:

>I'm posting this for a buddy of mine who can't get newsgroups on his
>system..
>
>This is an OLD mint portable battery pack, model number HB-506. This is
>for the HB-525 / 625 radios of the late 1960s.
>
>http://www.ebay.com/itm/130609760136
>
>go to ebay and copy and paste the item number if the link does not work
>
>130609760136

I have one of those too. Not as nice condition though. It was used a lot back in the day, but it still works, and even has an HB-525 still attached to it. I checked to see if there was any interest in this item, and saw it took in $129.26 just for the pack without radio or batteries. Wow.

Bob KB2ZGN

2788. SUPER HOT VIDEOS AND ALL ACTRESSES KISSING PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-11 00:40:29 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <fc7e86f6-0000-4f67-919f-367fa7396058@c16g2000pre.googlegroups.com>
Source record: 3289

hot videos

real kiss videos
http://videos2youth.blogspot.com/2011/11/real-kiss-videos.html
first night hot videos
http://videos2youth.blogspot.com/2011/11/first-night-hot-videos.html
mallu hot videos
http://videos2youth.blogspot.com/2011/11/mallu-hot-videos.html
indian bedroom hot
http://videos2youth.blogspot.com/2011/11/indian-bedroom-hot.html
romantic videos
http://videos2youth.blogspot.com/2011/11/romantic-videos.html

HOT PHOTOS
lip kiss photos
http://photostwo2u.blogspot.com/2010/09/photos.html
bikini photos
http://photostwo2u.blogspot.com/2010/09/photos-2.html
SEXY PHOTOS
http://photostwo2u.blogspot.com/2010/09/photos-3.html
indian hot photos
http://photostwo2u.blogspot.com

ALL INTERVIEW QUESTIONS

java interview questions
http://allinterviewsquestions.blogspot.com/2009/02/java-interview-questions.html
oracle interview questions
http://allinterviewsquestions.blogspot.com/2009/02/oracle-interview-questions.html
hardware interview questions 4
http://allinterviewsquestions.blogspot.com/2009/02/hardware-interview-questions.html
SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html
dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

2789. hi just visit these site

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-12 13:21:59 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <fbd3cc13-d711-4103-b458-abaf7692acc0@k10g2000yqk.googlegroups.com>
Source record: 3290

SPORTS WORLD
http://sports7833.blogspot.com

JEWELLERY WORLD
http://jewellery3377.blogspot.com

WORLD FASHION
http://styles33.blogspot.com

HENNA DESIGNS
http://henna33.blogspot.com

TOP MARKET
http://market78.blogspot.com

Sports News
http://super1213.blogspot.com

List of Dogs Breeds Images and Videos
http://dogbreedspk.blogspot.com

Fashion Life Style
http://fashion1299.blogspot.com

2790. Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 02:25:05 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jcblq4ceg1@dont-email.me>
Source record: 3291

Where does one acquire those slip on tips for vertical antenna elements. Or what readily available alternatives are there?

Wayne
W5GIE

2791. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 03:16:51 UTC
From: tom <news4792@taring.org>
Message-ID: <4ee966a2$0$74948$8046368a@newsreader.iphouse.net>
Source record: 3292

On 12/14/2011 8:25 PM, Wayne wrote:
> Where does one acquire those slip on tips for vertical antenna elements.
> Or what readily available alternatives are there?
>
> Wayne
> W5GIE

Don't know about the first question.

Alternatives

o Hot glue filled heat shrink tubing. Readily available at my local pro electronics store.

o a drop of mixed 5 minute epoxy

o a large number of other things available at your LHS or FLAPS. Be creative.

tom
K0TAR

LHS - Local Hardware Store
FLAPS - Friendly Local Auto Parts Store

2792. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 05:52:23 UTC
From: n1ald <cybrinjn@gmail.com>
Message-ID: <29105957.119.1323928343193.JavaMail.geo-discussion-forums@yqey7>
Source record: 3293

Hardware stores have slip on caps (of various sizes) that I used to get for my elderly aunt's walker and canes. I have found them to be satisfactory, but change them often because they will deteriorate and begin to leak.

2793. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 14:27:54 UTC
From: techie@w6yx.stanford.edu
Message-ID: <jcd05ahs1@usenet.stanford.edu>
Source record: 3294

In article <jcblq4ceg1@dont-email.me>,
Wayne <mygarbagecan@verizon.net> wrote:
>Where does one acquire those slip on tips for vertical antenna elements. Or
>what readily available alternatives are there?
>
>Wayne
>W5GIE
>

You could try the plastic dip used for tool handles.

--
-- Welcome My Son, Welcome To The Machine --
Bob Vaughan | techie@{w6yx|tantivy}.stanford.edu | techie@tantivy.net
AF6RR | P.O. Box 19792, Stanford, Ca 94309 | 1-650-469-3850
-- I am Me, I am only Me, And no one else is Me, What could be simpler? --

2794. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 16:46:24 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jcd892$uq3$1@dont-email.me>
Source record: 3295

Thanks for the ideas.
The question was prompted because I don't want to take the antenna down for a check or repair, and I don't know how well my readily available materials hold up under UV and heat.

I'll mull this over a bit, and then charge ahead :)

Wayne
W5GIE

2795. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 17:11:36 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnjekai8.dcc.nomail@xs8.xs4all.nl>
Source record: 3296

Wayne <mygarbagecan@verizon.net> wrote:
> Thanks for the ideas.
> The question was prompted because I don't want to take the antenna down for
> a check or repair, and I don't know how well my readily available materials
> hold up under UV and heat.

How useful is it to have plastic tip caps on an antenna you cannot reach?

I could understand that you would want a spherical tip end to reduce
the risk of arcing, but it would need to be metallic and would not suffer
from UV or heat.

2796. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 18:13:54 UTC
From: Audio1 <Audio1@where.net>
Message-ID: <CNqGq.704$Mw4.117@newsfe06.iad>
Source record: 3297

On 12/15/2011 12:11 PM, Rob wrote:
> Wayne<mygarbagecan@verizon.net> wrote:
>> Thanks for the ideas.
>> The question was prompted because I don't want to take the antenna down for
>> a check or repair, and I don't know how well my readily available materials
>> hold up under UV and heat.
>
> How useful is it to have plastic tip caps on an antenna you cannot reach?

If the antenna is made of hollow aluminum tubing it keeps rain, snow and
insects out of the tube.

>
> I could understand that you would want a spherical tip end to reduce
> the risk of arcing, but it would need to be metallic and would not suffer
> from UV or heat.

2797. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 19:01:43 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jcdg6p$h95$1@dont-email.me>
Source record: 3298

"Audio1" wrote in message news:CNqGq.704$Mw4.117@newsfe06.iad...

On 12/15/2011 12:11 PM, Rob wrote:
> Wayne<mygarbagecan@verizon.net> wrote:
>> Thanks for the ideas.
>> The question was prompted because I don't want to take the antenna down
>> for
>> a check or repair, and I don't know how well my readily available
>> materials
>> hold up under UV and heat.
>
> How useful is it to have plastic tip caps on an antenna you cannot reach?

If the antenna is made of hollow aluminum tubing it keeps rain, snow and
insects out of the tube.
****
Exactly.

2798. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 20:09:59 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <655b1d4e-6cc1-4d13-b16a-3b2e7ed710c4@n6g2000vbg.googlegroups.com>
Source record: 3299

On Dec 14, 9:25 pm, "Wayne" <mygarbage...@verizon.net> wrote:
> Where does one acquire those slip on tips for vertical antenna elements. Or
> what readily available alternatives are there?
>
> Wayne
> W5GIE

Heat shrink end caps. Thes hold up well in sun light and have glue on
the inside that melts when you apply heat..

Jimmie

2799. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 20:13:01 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnjekl6d.dcc.nomail@xs8.xs4all.nl>
Source record: 3300

Audio1 <Audio1@where.net> wrote:
> On 12/15/2011 12:11 PM, Rob wrote:
>> Wayne<mygarbagecan@verizon.net> wrote:
>>> Thanks for the ideas.
>>> The question was prompted because I don't want to take the antenna down for
>>> a check or repair, and I don't know how well my readily available materials
>>> hold up under UV and heat.
>>
>> How useful is it to have plastic tip caps on an antenna you cannot reach?
>
> If the antenna is made of hollow aluminum tubing it keeps rain, snow and
> insects out of the tube.

Ah tube... I was thinking about steel rod with a pointy (and maybe
dangerous) end.

2800. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 21:38:27 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <iTMGVSHTjm6OFwXC@g3ohx.demon.co.uk>
Source record: 3201

In message <slrnjekl6d.dcc.nomail@xs8.xs4all.nl>, Rob
<nomail@example.com> writes
>Audio1 <Audio1@where.net> wrote:
>> On 12/15/2011 12:11 PM, Rob wrote:
>>> Wayne<mygarbagecan@verizon.net> wrote:
>>>> Thanks for the ideas.
>>>> The question was prompted because I don't want to take the antenna down for
>>>> a check or repair, and I don't know how well my readily available materials
>>>> hold up under UV and heat.
>>>
>>> How useful is it to have plastic tip caps on an antenna you cannot reach?
>>
>> If the antenna is made of hollow aluminum tubing it keeps rain, snow and
>> insects out of the tube.
>
>Ah tube... I was thinking about steel rod with a pointy (and maybe
>dangerous) end.

Expanding foam filler (trim off what oozes back out of the ends of the
tube).
--
Ian

--- Posted via news://freenews.netfront.net/ - Complaints to news@netfront.net ---

2801. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 21:41:55 UTC
From: Bert <bert@iphouse.com>
Message-ID: <Xns9FBC9FB215615VeebleFetzer@216.250.188.140>
Source record: 3202

In news:CNqGq.704$Mw4.117@newsfe06.iad Audio1 <Audio1@where.net> wrote:

> On 12/15/2011 12:11 PM, Rob wrote:
>> Wayne<mygarbagecan@verizon.net> wrote:
>>> Thanks for the ideas.
>>> The question was prompted because I don't want to take the antenna
>>> down for a check or repair, and I don't know how well my readily
>>> available materials hold up under UV and heat.
>>
>> How useful is it to have plastic tip caps on an antenna you cannot
>> reach?
>
> If the antenna is made of hollow aluminum tubing it keeps rain, snow
> and insects out of the tube.

It would also prevent the tube from howling or "singing" when the wind
hits just right.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

2802. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 21:46:10 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jcdpr0ckc1@dont-email.me>
Source record: 3203

"Rob" <nomail@example.com> wrote in message
news:slrnjekl6d.dcc.nomail@xs8.xs4all.nl...
> Audio1 <Audio1@where.net> wrote:
>> On 12/15/2011 12:11 PM, Rob wrote:
>>> Wayne<mygarbagecan@verizon.net> wrote:
>>>> Thanks for the ideas.
>>>> The question was prompted because I don't want to take the antenna down
>>>> for
>>>> a check or repair, and I don't know how well my readily available
>>>> materials
>>>> hold up under UV and heat.
>>>
>>> How useful is it to have plastic tip caps on an antenna you cannot
>>> reach?
>>
>> If the antenna is made of hollow aluminum tubing it keeps rain, snow and
>> insects out of the tube.
>
> Ah tube... I was thinking about steel rod with a pointy (and maybe
> dangerous) end.
-
Yes in some posts last week or so, I was talking about a steel whip.
However, I have ordered some telescoping tubing to replace the whip with a
longer radiator. It won't be that difficult to take the antenna up and
down, but at my age, it's better to stay off ladders and roofs :)

-Wayne
W5GIE

2803. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 22:20:58 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnjeksmc.11i2.knock_yourself_out@shell.config.com>
Source record: 3204

```
On Thu, 15 Dec 2011 13:13:54 -0500, Audio1 wrote:
> On 12/15/2011 12:11 PM, Rob wrote:
>> Wayne<mygarbagecan@verizon.net> wrote:
>>> Thanks for the ideas.
>>> The question was prompted because I don't want to take the antenna down for
>>> a check or repair, and I don't know how well my readily available materials
>>> hold up under UV and heat.
>>
>> How useful is it to have plastic tip caps on an antenna you cannot reach?
>
> If the antenna is made of hollow aluminum tubing it keeps rain, snow and
> insects out of the tube.

Intelligent questions have a better chance of
receiving intelligent answers -- versus receiving QRM.

Is this a vertical whip antenna, a vertical tubing antenna, a vertical
pipe antenna, a vertical tower antenna, or even a vertical wire antenna?
```

2804. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 22:51:47 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jcdtm7$31b$1@dont-email.me>
Source record: 3205

"Allodoxaphobia" wrote in message
news:slrnjeksmc.11i2.knock_yourself_out@shell.config.com...

On Thu, 15 Dec 2011 13:13:54 -0500, Audio1 wrote:
>> On 12/15/2011 12:11 PM, Rob wrote:
>>> Wayne<mygarbagecan@verizon.net> wrote:
>>>> Thanks for the ideas.
>>>> The question was prompted because I don't want to take the antenna down
>>>> for
>>>> a check or repair, and I don't know how well my readily available
>>>> materials
>>>> hold up under UV and heat.
>>>
>>> How useful is it to have plastic tip caps on an antenna you cannot
>>> reach?
>>
>> If the antenna is made of hollow aluminum tubing it keeps rain, snow and
>> insects out of the tube.
>
>Intelligent questions have a better chance of
>receiving intelligent answers -- versus receiving QRM.
>
>Is this a vertical whip antenna, a vertical tubing antenna, a vertical
>pipe antenna, a vertical tower antenna, or even a vertical wire antenna?
>-

Going back to the original post....
"Where does one acquire those slip on tips for vertical antenna elements.
Or
what readily available alternatives are there?"

I don't recall seeing slip on tips for whips, pipes, towers, or wires.
Apparently you have, so I will clarify by saying that it is 3/8 inch tubing.
Is that "intelligent question" enough for you?

2805. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 23:07:09 UTC
From: Topaz305rk <navajomt@nemont.net>
Message-ID: <IO2dnfG94OMz4HfTnZ2dnUVZ_tadnZ2d@vnet-inc.com>
Source record: 3206

"Wayne" <mygarbagecan@verizon.net> wrote in message
news:jcblq4ceg1@dont-email.me...
> Where does one acquire those slip on tips for vertical antenna elements.
> Or what readily available alternatives are there?
>
> Wayne
> W5GIE

Another idea.
Have used this for many years.
Put a small wood dowel inside the element, snug fit, make it flush with the
end of the element.
Dip end of element if "Dip It" or "Liquid Electricians Tape".
Have elements that have been up for lots and lots of years without a
problem.
Heat, water, snow, ice, UV; nothing seems to bother it.

K7SAM

2806. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-15 23:24:32 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jcdvjj$d7j$1@dont-email.me>
Source record: 3207

"Topaz305rk" wrote in message
news:IO2dnfG94OMz4HfTnZ2dnUVZ_tadnZ2d@vnet-inc.com...

"Wayne" <mygarbagecan@verizon.net> wrote in message
news:jcblq4ceg1@dont-email.me...
> Where does one acquire those slip on tips for vertical antenna elements.
> Or what readily available alternatives are there?
>
> Wayne
> W5GIE

Another idea.
Have used this for many years.
Put a small wood dowel inside the element, snug fit, make it flush with the
end of the element.
Dip end of element if "Dip It" or "Liquid Electricians Tape".
Have elements that have been up for lots and lots of years without a
problem.
Heat, water, snow, ice, UV; nothing seems to bother it.

K7SAM
****
Interesting....
Thanks.

2807. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-16 02:06:53 UTC
From: Justice Gustine <justicegustine@aol.com>
Message-ID: <4s9le75scf318h0k7dp5phc938d50glr0g@4ax.com>
Source record: 3208

On Wed, 14 Dec 2011 18:25:05 -0800, "Wayne" <mygarbagecan@verizon.net>
wrote:

>Where does one acquire those slip on tips for vertical antenna elements. Or
>what readily available alternatives are there?
>
>Wayne
>W5GIE

Used by utility/communications companies - http://www.caplugs.com/

2808. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-16 02:29:26 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jceaea$3ud$1@dont-email.me>
Source record: 3209

"Justice Gustine" wrote in message
news:4s9le75scf318h0k7dp5phc938d50glr0g@4ax.com...

On Wed, 14 Dec 2011 18:25:05 -0800, "Wayne" <mygarbagecan@verizon.net>
wrote:

>Where does one acquire those slip on tips for vertical antenna elements.
>Or
>what readily available alternatives are there?
>
>Wayne
>W5GIE

Used by utility/communications companies - http://www.caplugs.com/
****
-
Nice.

2809. Re: Vertical antenna tip caps

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-16 09:15:52 UTC
From: Rob <nomail@example.com>
Message-ID: <slrnjem328.gh6.nomail@xs8.xs4all.nl>
Source record: 3210

Wayne <mygarbagecan@verizon.net> wrote:
> I don't recall seeing slip on tips for whips, pipes, towers, or wires.

Well, I do...

2810. Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-16 23:20:26 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <_mQGq.3487$aW6.811@newsfe09.iad>
Source record: 3211

Hi

I have the Keeprite 075 condensing gas furnace. Only about 10 years old. Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.

My question is what happened all of a sudden yesterday when I think I had a bit too much humidity in the air, why did the furnace fail?

Now when there is a call for heat on the thermostat, what happens is both blowers run only. The exhaust blower venting out runs immediately on start up, the main house blower starts immediately on start up. But no clicking from the honeywell smart valve, no sparking or ignighting beginning or trying. Nothing else is happenening. No gas is going through the valve, no obstructions in either intake or exhaust piping. I just vacuumed everything out, I changed thermostates to the old one, same thing happens. I suspect either the motherboard which has no lights to blink to show alarms, or the gas valve which I had to replace couple years ago, But back then at least the igniters would light up and shut off immediately, told me it was a gas valve issue so replaced that and worked. All else looks clean and I smacked as many relays as I could see, checked all the tubes to see if connections are ok and seems ok. Even when thermostat is turned off, disconnected, when I turn the furnace on it only immediately starts up the both blowers and nothing else, no clicking, no safeties going on and off, no nothing. Anyone here have a suggestion other than hiring an HVAC contracting firm to come in and give me estimates? I know a board is about 50 bucks, easy to replace, gas valve is about 150 easy to replace, what ever sensor should be cheap and easy to replace. Any suggestions as to what to try next?

Thanks Hams, I know this is off topic, but I have gotten good advice from this group before and there are no furnace newsgroups of any kind on my server.
Thanks for any advice or tips or links
73

2811. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-17 00:03:43 UTC
From: joe <none@domain.invalid>
Message-ID: <jcgla9$l2o$1@speranza.aioe.org>
Source record: 3212

Tuuk wrote:
> Hi
>
> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
Any suggestions as to what to try next?
>

Learn to use Google!

2812. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-17 03:52:21 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnjeo4fp.oof.knock_yourself_out@shell.config.com>
Source record: 3213

```
On Fri, 16 Dec 2011 18:20:26 -0500, Tuuk wrote:
>
> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
> My question is what happened all of a sudden yesterday when I think I had a
> bit too much humidity in the air, why did the furnace fail?

Probably due to your bad karma from posting OT material in usenet ngs.
```

2813. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-17 04:53:20 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <5fVGq.21552$8O1.14407@newsfe07.iad>
Source record: 3214

Hi

Ya, I googled it a lot, found some information but nothing explaining why the furnace's both fans run immediately with nothing else happening.

Suppose I will try replacing components one by one, I'll go by most replaced components. I can google that.

I tried jumping the high low switches, the vacuum switch, cleaned out the chamber, cant really see the ignighter but that is an easy replacement and might as well after 10 years. I heard they rarely last that long.

Got some excellent advice from this group before, will do it again.

"Allodoxaphobia" <knock_yourself_out@example.net> wrote in message news:slrnjeo4fp.oof.knock_yourself_out@shell.config.com...
> On Fri, 16 Dec 2011 18:20:26 -0500, Tuuk wrote:
>>
>> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
>> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>> My question is what happened all of a sudden yesterday when I think I had
>> a
>> bit too much humidity in the air, why did the furnace fail?
>
> Probably due to your bad karma from posting OT material in usenet ngs.
>

2814. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-17 14:00:59 UTC
From: Topaz305rk <navajomt@nemont.net>
Message-ID: <Ga-dnbKrvMA9PXHTnZ2dnUVZ_q-dnZ2d@vnet-inc.com>
Source record: 3215

```
" Tuuk" <abraaaa@cadabraaaa.ca> wrote in message
news:_mQGq.3487$aW6.811@newsfe09.iad...
> Hi
>
> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>
> My question is what happened all of a sudden yesterday when I think I had
> a bit too much humidity in the air, why did the furnace fail?
>
> Now when there is a call for heat on the thermostat, what happens is both
> blowers run only. The exhaust blower venting out runs immediately on start
> up, the main house blower starts immediately on start up. But no clicking
> from the honeywell smart valve, no sparking or ignighting beginning or
> trying. Nothing else is happenening. No gas is going through the valve, no
> obstructions in either intake or exhaust piping. I just vacuumed
> everything out, I changed thermostates to the old one, same thing happens.
> I suspect either the motherboard which has no lights to blink to show
> alarms, or the gas valve which I had to replace couple years ago, But back
> then at least the igniters would light up and shut off immediately, told
> me it was a gas valve issue so replaced that and worked. All else looks
> clean and I smacked as many relays as I could see, checked all the tubes
> to see if connections are ok and seems ok. Even when thermostat is turned
> off, disconnected, when I turn the furnace on it only immediately starts
> up the both blowers and nothing else, no clicking, no safeties going on
> and off, no nothing. Anyone here have a suggestion other than hiring an
> HVAC contracting firm to come in and give me estimates? I know a board is
> about 50 bucks, easy to replace, gas valve is about 150 easy to replace,
> what ever sensor should be cheap and easy to replace. Any suggestions as
> to what to try next?
>
> Thanks Hams, I know this is off topic, but I have gotten good advice from
> this group before and there are no furnace newsgroups of any kind on my
> server.
> Thanks for any advice or tips or links
> 73
>
>

When you say no lights to blink - do you mean it has no lights on the board
to do that
or do you mean there are lights on the board but they do not light up.
If the latter, it would certainly seem to be the board, if the former then,
darn, no help there.
```

Having had a similar problem my first replacement item would be the motherboard.
Normally the vent blower comes on to purge the system for a few seconds, followed of
course by the igniter, then the gas valve and after a short warm up the main blower fan.
As both fans and start at the same time and nothing else is happening I am thinking
the mother board is at fault.
Like you say, easy to replace and not to expensive and from the sound of the problem
I would guess that is a good starting place.
I have a spare board and whenever I have a problem I use it for trouble shooting.
If I replace it and get the same problem, then, I am off in search of what is really
causing the problem.
As a side note, the earlier problem with the gas valve could have also been a motherboard.
If the vent blower starts, then the igniter lights and then shuts down either the motherboard
did not sense igniter heat or it did and then did not send the signal to open the gas valve.
In your case it worked like it should but the valve did not open. It could have been a bad
igniter sensing circuit or a bad valve opening relay however. Just something to keep in mind.
Good luck with your problem.
Not a licensed furnace guy or anything, just have to do it all myself living as far out in the
boonies of northeast Montana as I do. You learn to do this stuff or freeze during the winter.

K7SAM

2815. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-17 15:00:22 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <1ibpe7hksv4hfnme5dtshofmnoj9g5aq51@4ax.com>
Source record: 3216

On Fri, 16 Dec 2011 18:20:26 -0500, " Tuuk" <abraaaa@cadabraaaa.ca>
wrote:

>Hi
>
>I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
>Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>
>My question is what happened all of a sudden yesterday when I think I had a
>bit too much humidity in the air, why did the furnace fail?
>
>Now when there is a call for heat on the thermostat, what happens is both
>blowers run only. The exhaust blower venting out runs immediately on start
>up, the main house blower starts immediately on start up. But no clicking
>from the honeywell smart valve, no sparking or ignighting beginning or
>trying. Nothing else is happenening. No gas is going through the valve, no
>obstructions in either intake or exhaust piping. I just vacuumed everything
>out, I changed thermostates to the old one, same thing happens. I suspect
>either the motherboard which has no lights to blink to show alarms, or the
>gas valve which I had to replace couple years ago, But back then at least
>the igniters would light up and shut off immediately, told me it was a gas
>valve issue so replaced that and worked. All else looks clean and I smacked
>as many relays as I could see, checked all the tubes to see if connections
>are ok and seems ok. Even when thermostat is turned off, disconnected, when
>I turn the furnace on it only immediately starts up the both blowers and
>nothing else, no clicking, no safeties going on and off, no nothing. Anyone
>here have a suggestion other than hiring an HVAC contracting firm to come in
>and give me estimates? I know a board is about 50 bucks, easy to replace,
>gas valve is about 150 easy to replace, what ever sensor should be cheap and
>easy to replace. Any suggestions as to what to try next?
>
>Thanks Hams, I know this is off topic, but I have gotten good advice from
>this group before and there are no furnace newsgroups of any kind on my
>server.
>Thanks for any advice or tips or links
>73
>

Check the air intake and exhaust output on the furnace.

If either is clogged, the furnace will start up then shut down.

Also -- how does your system dispose of condensate? Is there a
condensate pump? If it's not working, the system will start up then
shut down when it sense the condensate pump is not working.

2816. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-17 16:41:49 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <k8hpe7dqnhtj504ju80tse6ldei2cvsn3a@4ax.com>
Source record: 3217

When working projects without prior knowledge or experience I try to
use the following approach:
Log observations and my actions on paper
Do what is easy
Do what is cheap
Clean it
Take pictures before disassembly
Determine how it is supposed to work... this is where it gets serious!

On Fri, 16 Dec 2011 18:20:26 -0500, " Tuuk" <abraaaa@cadabraaaa.ca>
wrote:

>Hi
>
>I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
>Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>
>My question is what happened all of a sudden yesterday when I think I had a
>bit too much humidity in the air, why did the furnace fail?
>
>Now when there is a call for heat on the thermostat, what happens is both
>blowers run only. The exhaust blower venting out runs immediately on start
>up, the main house blower starts immediately on start up. But no clicking
>from the honeywell smart valve, no sparking or ignighting beginning or
>trying. Nothing else is happenening. No gas is going through the valve, no
>obstructions in either intake or exhaust piping. I just vacuumed everything
>out, I changed thermostates to the old one, same thing happens. I suspect
>either the motherboard which has no lights to blink to show alarms, or the
>gas valve which I had to replace couple years ago, But back then at least
>the igniters would light up and shut off immediately, told me it was a gas
>valve issue so replaced that and worked. All else looks clean and I smacked
>as many relays as I could see, checked all the tubes to see if connections
>are ok and seems ok. Even when thermostat is turned off, disconnected, when
>I turn the furnace on it only immediately starts up the both blowers and
>nothing else, no clicking, no safeties going on and off, no nothing. Anyone
>here have a suggestion other than hiring an HVAC contracting firm to come in
>and give me estimates? I know a board is about 50 bucks, easy to replace,
>gas valve is about 150 easy to replace, what ever sensor should be cheap and
>easy to replace. Any suggestions as to what to try next?
>
>Thanks Hams, I know this is off topic, but I have gotten good advice from
>this group before and there are no furnace newsgroups of any kind on my
>server.
>Thanks for any advice or tips or links
>73

>
John Ferrell W8CCW

2817. hi just visit

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-17 20:39:12 UTC
From: "shahzypk@hotmail.com" <shahzytipu@hotmail.com>
Message-ID: <4b397017-41ed-4330-9f0f-a2e3cd244d47@e2g2000vbb.googlegroups.com>
Source record: 3218

SPORTS WORLD
http://sports7833.blogspot.com

JEWELLERY WORLD
http://jewellery3377.blogspot.com

WORLD FASHION
http://styles33.blogspot.com

HENNA DESIGNS
http://henna33.blogspot.com

TOP MARKET
http://market78.blogspot.com

Sports News
http://super1213.blogspot.com

List of Dogs Breeds Images and Videos
http://dogbreedspk.blogspot.com

Fashion Life Style
http://fashion1299.blogspot.com

2818. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-18 04:38:30 UTC
From: jerry4 <wastedaway@margaritaville.net>
Message-ID: <jcjqo6mih2@dont-email.me>
Source record: 3219

On Sat, 17 Dec 2011 10:00:22 -0500, Kickin' Ass and Takin' Names wrote:

> On Fri, 16 Dec 2011 18:20:26 -0500, " Tuuk" <abraaaa@cadabraaaa.ca>
> wrote:

>
> Also -- how does your system dispose of condensate? Is there a
> condensate pump? If it's not working, the system will start up then
> shut down when it sense the condensate pump is not working.

This has been the prob with my Mom's gas furnace... the condensate reservoir fills up and trips the float switch because the condensate pump isn't working (or the drain line is frozen in my case). the fans run but no gas, etc

2819. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-18 12:57:15 UTC
From: dave <dave@dave.dave>
Message-ID: <-bOdnT8pn9-2fnDTnZ2dnUVZ_tSdnZ2d@earthlink.com>
Source record: 3220

On Fri, 16 Dec 2011 18:20:26 -0500, Tuuk wrote:

> Hi
>
> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>
> My question is what happened all of a sudden yesterday when I think I
> had a bit too much humidity in the air, why did the furnace fail?
>
> Now when there is a call for heat on the thermostat, what happens is
> both blowers run only. The exhaust blower venting out runs immediately
> on start up, the main house blower starts immediately on start up. But
> no clicking from the honeywell smart valve, no sparking or ignighting
> beginning or trying. Nothing else is happenening. No gas is going
> through the valve, no obstructions in either intake or exhaust piping. I
> just vacuumed everything out, I changed thermostates to the old one,
> same thing happens. I suspect either the motherboard which has no lights
> to blink to show alarms, or the gas valve which I had to replace couple
> years ago, But back then at least the igniters would light up and shut
> off immediately, told me it was a gas valve issue so replaced that and
> worked. All else looks clean and I smacked as many relays as I could
> see, checked all the tubes to see if connections are ok and seems ok.
> Even when thermostat is turned off, disconnected, when I turn the
> furnace on it only immediately starts up the both blowers and nothing
> else, no clicking, no safeties going on and off, no nothing. Anyone here
> have a suggestion other than hiring an HVAC contracting firm to come in
> and give me estimates? I know a board is about 50 bucks, easy to
> replace, gas valve is about 150 easy to replace, what ever sensor should
> be cheap and easy to replace. Any suggestions as to what to try next?
>
> Thanks Hams, I know this is off topic, but I have gotten good advice
> from this group before and there are no furnace newsgroups of any kind
> on my server.
> Thanks for any advice or tips or links 73

Is there a thermostatic switch on the hot air manifold?

2820. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-18 21:37:55 UTC
From: NM5K <none@invalid.net>
Message-ID: <jclmhhhpp1@dont-email.me>
Source record: 3221

On 12/17/2011 10:38 PM, jerry4 wrote:
> On Sat, 17 Dec 2011 10:00:22 -0500, Kickin' Ass and Takin' Names wrote:
>
>> On Fri, 16 Dec 2011 18:20:26 -0500, " Tuuk"<abraaaa@cadabraaaa.ca>
>> wrote:
>
>
>>
>> Also -- how does your system dispose of condensate? Is there a
>> condensate pump? If it's not working, the system will start up then
>> shut down when it sense the condensate pump is not working.
>
> This has been the prob with my Mom's gas furnace... the condensate
> reservoir fills up and trips the float switch because the condensate pump
> isn't working (or the drain line is frozen in my case). the fans run but
> no gas, etc

That would be the first thing to check. If not that, then I
would check the induced fan blower system that exhausts the
hot gasses.
You would want to make sure the flue pipe is clear, and
also the little tiny hole that is in the blower housing,
which is inside the nipple where the little usually rubber
hose connects. Many times that little hole will become
plugged and the pressure switch will fail to operate.
You can jump the float switch for a quick test.
You can also jump the pressure switch for a quick test,
but you have to start the furnace cycle first, let the exhaust
fan start running, and then jump the switch.
If you jump the pressure switch first, and then try to cycle the
furnace, it will see it as a bad pressure switch, and it will not
operate.
But in this case, the condensate reservoir is the more likely
culprit. That's a fairly common problem with those.

2821. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-19 04:34:50 UTC
From: "GT Charlie"
Message-ID: <7fete7h3u8soonren8jppe43haj01fmv9t@4ax.com>
Source record: 3222

You're a little early for your unrelated to the group problem of the month. I believe you have posted non-ham radio questions 4 times in as many months. Of the tens of thousands of news groups, THIS is the best place to seek help on gardening, HVAC, etc.? Have you found your solution yet?

If you don't care what others think about you, then your are going about this the wrong way. You need to go to a group with a lot more traffic than this one. Your odds of finding at least one "member" that doesn't mind encouraging off topic posts will be greatly increased. I hear the porno groups are popular these days. Wait, even better are the mp3 music news groups. If it's Hams you want, the UK Ham group (uk.radio.amateur) is brimming with technically proficient people just waiting to assist. That group gets a lot more posts each day than this one.

This is fun, let's do it again next month.

On Fri, 16 Dec 2011 23:53:20 -0500, " Tuuk" <abraaaa@cadabraaaa.ca> wrote:

>Hi
>
>Ya, I googled it a lot, found some information but nothing explaining why
>the furnace's both fans run immediately with nothing else happening.
>
>Suppose I will try replacing components one by one, I'll go by most replaced
>components. I can google that.
>
>I tried jumping the high low switches, the vacuum switch, cleaned out the
>chamber, cant really see the ignighter but that is an easy replacement and
>might as well after 10 years. I heard they rarely last that long.
>
>Got some excellent advice from this group before, will do it again.
>
>
>
>
>
>
>"Allodoxaphobia" <knock_yourself_out@example.net> wrote in message
>news:slrnjeo4fp.oof.knock_yourself_out@shell.config.com...
>> On Fri, 16 Dec 2011 18:20:26 -0500, Tuuk wrote:
>>>
>>> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
>>> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>>> My question is what happened all of a sudden yesterday when I think I had
>>> a

>>> bit too much humidity in the air, why did the furnace fail?
>>
>> Probably due to your bad karma from posting OT material in usenet ngs.
>>

2822. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-19 06:10:38 UTC
From: NM5K <none@invalid.net>
Message-ID: <jcmkkg$2n9$1@dont-email.me>
Source record: 3223

On 12/18/2011 10:34 PM, GT Charlie wrote:
> You're a little early for your unrelated to the group problem of the month. I
> believe you have posted non-ham radio questions 4 times in as many months. Of
> the tens of thousands of news groups, THIS is the best place to seek help on
> gardening, HVAC, etc.? Have you found your solution yet?

He could do worse, being as I'm qualified to repair such
equipment on a professional basis.. I can fix all kinds
of things, not just radios. :)

With the massive flow of antenna articles I see these days,
it's was lucky he able to get a word in edgewise.. :|

And being as he did post about towers once, at least he's
not a total alien to this small celestial body within the
vast galaxy called usenet.

And he did say he tried to find the applicable groups,
but found no joy. :(

Of course, your informative post was quite valuable to this
group I'm sure. :/

Hummm..

2823. HOT VIDEOS 2 HOT PEOPLE AND ACTRESSES NEVER SEEN PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-19 07:38:47 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <c8482e11-a236-441d-a0c0-1e488c271a0a@o7g2000yqk.googlegroups.com>
Source record: 3224

VERY VERY VERY HOT HOT HOT ONLY HOT
http://acresesandmodels.blogspot.com/2011/06/real-kiss-hot-videos.html

HOT HOT LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/hot-for-youth.html
SUPER HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-101.html
YOUTH HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-lip-kiss-12.html
ONLY HOT HOT
http://hotvideosfreesee.blogspot.com/2010/06/supr-hot-never-seen.html
SUPER HOT NEVER SEEN
http://hotvideosfreesee.blogspot.com/2010/06/supe-r-hot-kiss-op.html
HEROINE LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/kajal-best-lip-kiss.html

for mopre hot videos
http://allvideosforyouth.blogspot.com/2010/08/super-hot-lip-kiss.html

jobs
http://alljobsaywhere.blogspot.com/

mobile

mobile games free download
http://mobileallinforation.blogspot.com/2010/08/mobile-games-free-download.html

mobile ringtones free download
http://mobileallinforation.blogspot.com/2010/08/mobile-ringtones-free-download.html

2824. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-20 13:47:38 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <Xl0Iq.31376$U16.3688@newsfe15.iad>
Source record: 3225

Hi

Thanks for all the advice. And I have tried all those. I took the condensing fan blower out and cleaned out that housing behind it and re-siliconed it. It did have some gunk in there but not enough to cause a clog. But now that is clean and when I reinstalled it the exact same thing happened. What is troubling me is that even if the thermost wires are disconnected from that board what happens is both man blower and exhast blower simply are the only things that run. Instantly. No sequence of events eg blower starting, then ignigters starting then main blower after heat exchangers heats up. None of that. I jumped that float switch and those vacume hoses I sucked and blew through them and I can hear the switches working, but same thing happens, nothing happens with that honeywell smart valve, no gas. I checked all the intake air pipes and exhaust pipes, nothing clogging. While everything leads me to believe it is the board so I bought another for 80 dollars and will replace that board today. I will take a photo of the board and one by one replace those wired and connections and try that. I was hitting those relays on the board and still nothing.

Seems some are upset because of my posts of my antenna and my sauna and garden,,,, well coincedently enough I have in my basement the sauna and steam bath thing I also installed and it was that very night that me and the missis were steaming it up in the sauna and steam bath and I think maybe there was moisture in the air that evening as that was the evening it failed.

To answer a question about the lights, my friend's furnace has the idiot lights where it blinks signifying what has failed, mine has no lights on that board, I think mine was the model before his, mine is about ten years old. I am going to replace this main fan relay board and see if that solves the problem, I can return the board if the same problem remains and start replacing the next part after that until something works right. I replaced the thermostat with the old one and same problem.

Thanks for the advice and tips. As I have said, I know there is a lot of knowledge in this group, I have benefited from it before and will again, as my server doesn't have active newsgroups like HVAC or Furnace or any of the other crazy things I have asked about. Lots of knowledge here, thanks. And i cannot wait until someone asks a question about their furnace, or their sauna rocks, or their tower, or their garden,,, because I will be the first to answer.

73

"dave" <dave@dave.dave> wrote in message
news:-bOdnT8pn9-2fnDTnZ2dnUVZ_tSdnZ2d@earthlink.com...

> On Fri, 16 Dec 2011 18:20:26 -0500, Tuuk wrote:
>
>> Hi
>>
>> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
>> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>>
>> My question is what happened all of a sudden yesterday when I think I
>> had a bit too much humidity in the air, why did the furnace fail?
>>
>> Now when there is a call for heat on the thermostat, what happens is
>> both blowers run only. The exhaust blower venting out runs immediately
>> on start up, the main house blower starts immediately on start up. But
>> no clicking from the honeywell smart valve, no sparking or ignighting
>> beginning or trying. Nothing else is happenening. No gas is going
>> through the valve, no obstructions in either intake or exhaust piping. I
>> just vacuumed everything out, I changed thermostates to the old one,
>> same thing happens. I suspect either the motherboard which has no lights
>> to blink to show alarms, or the gas valve which I had to replace couple
>> years ago, But back then at least the igniters would light up and shut
>> off immediately, told me it was a gas valve issue so replaced that and
>> worked. All else looks clean and I smacked as many relays as I could
>> see, checked all the tubes to see if connections are ok and seems ok.
>> Even when thermostat is turned off, disconnected, when I turn the
>> furnace on it only immediately starts up the both blowers and nothing
>> else, no clicking, no safeties going on and off, no nothing. Anyone here
>> have a suggestion other than hiring an HVAC contracting firm to come in
>> and give me estimates? I know a board is about 50 bucks, easy to
>> replace, gas valve is about 150 easy to replace, what ever sensor should
>> be cheap and easy to replace. Any suggestions as to what to try next?
>>
>> Thanks Hams, I know this is off topic, but I have gotten good advice
>> from this group before and there are no furnace newsgroups of any kind
>> on my server.
>> Thanks for any advice or tips or links 73
>
> Is there a thermostatic switch on the hot air manifold?
>

2825. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-20 22:34:30 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <S38Iq.34240$LO2.15590@newsfe13.iad>
Source record: 3226

Ok,

I changed the main fan board, and still the exact same condition happens.

Even though the thermost is off, even disconnected, as soon as I turn the
main toggle switch for my furnace, both main blower fan and exhaust fans
immediately begin and nothing else happens.

I just unplugged on leg from the high limit switch, then one leg from the
low limit switch then both together

Same, nothing.
Any suggestions?

Thanks
73

" Tuuk" <abraaaa@cadabraaaa.ca> wrote in message
news:Xl0Iq.31376$U16.3688@newsfe15.iad...
> Hi
>
> Thanks for all the advice. And I have tried all those. I took the
> condensing fan blower out and cleaned out that housing behind it and
> re-siliconed it. It did have some gunk in there but not enough to cause a
> clog. But now that is clean and when I reinstalled it the exact same thing
> happened. What is troubling me is that even if the thermost wires are
> disconnected from that board what happens is both man blower and exhast
> blower simply are the only things that run. Instantly. No sequence of
> events eg blower starting, then ignigters starting then main blower after
> heat exchangers heats up. None of that. I jumped that float switch and
> those vacume hoses I sucked and blew through them and I can hear the
> switches working, but same thing happens, nothing happens with that
> honeywell smart valve, no gas. I checked all the intake air pipes and
> exhaust pipes, nothing clogging. While everything leads me to believe it
> is the board so I bought another for 80 dollars and will replace that
> board today. I will take a photo of the board and one by one replace those
> wired and connections and try that. I was hitting those relays on the
> board and still nothing.
>
> Seems some are upset because of my posts of my antenna and my sauna and
> garden,,,, well coincedently enough I have in my basement the sauna and
> steam bath thing I also installed and it was that very night that me and
> the missis were steaming it up in the sauna and steam bath and I think
> maybe there was moisture in the air that evening as that was the evening
> it failed.
>

> To answer a question about the lights, my friend's furnace has the idiot
> lights where it blinks signifying what has failed, mine has no lights on
> that board, I think mine was the model before his, mine is about ten years
> old. I am going to replace this main fan relay board and see if that
> solves the problem, I can return the board if the same problem remains and
> start replacing the next part after that until something works right. I
> replaced the thermostat with the old one and same problem.
>
> Thanks for the advice and tips. As I have said, I know there is a lot of
> knowledge in this group, I have benefited from it before and will again,
> as my server doesn't have active newsgroups like HVAC or Furnace or any of
> the other crazy things I have asked about. Lots of knowledge here, thanks.
> And i cannot wait until someone asks a question about their furnace, or
> their sauna rocks, or their tower, or their garden,,, because I will be
> the first to answer.
>
> 73
>
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>
> "dave" <dave@dave.dave> wrote in message
> news:-bOdnT8pn9-2fnDTnZ2dnUVZ_tSdnZ2d@earthlink.com...
>> On Fri, 16 Dec 2011 18:20:26 -0500, Tuuk wrote:
>>
>>> Hi
>>>
>>> I have the Keeprite 075 condensing gas furnace. Only about 10 years old.
>>> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>>>
>>> My question is what happened all of a sudden yesterday when I think I
>>> had a bit too much humidity in the air, why did the furnace fail?
>>>
>>> Now when there is a call for heat on the thermostat, what happens is
>>> both blowers run only. The exhaust blower venting out runs immediately
>>> on start up, the main house blower starts immediately on start up. But
>>> no clicking from the honeywell smart valve, no sparking or ignighting
>>> beginning or trying. Nothing else is happenening. No gas is going
>>> through the valve, no obstructions in either intake or exhaust piping. I
>>> just vacuumed everything out, I changed thermostates to the old one,
>>> same thing happens. I suspect either the motherboard which has no lights
>>> to blink to show alarms, or the gas valve which I had to replace couple
>>> years ago, But back then at least the igniters would light up and shut
>>> off immediately, told me it was a gas valve issue so replaced that and
>>> worked. All else looks clean and I smacked as many relays as I could
>>> see, checked all the tubes to see if connections are ok and seems ok.
>>> Even when thermostat is turned off, disconnected, when I turn the
>>> furnace on it only immediately starts up the both blowers and nothing

>>> else, no clicking, no safeties going on and off, no nothing. Anyone here
>>> have a suggestion other than hiring an HVAC contracting firm to come in
>>> and give me estimates? I know a board is about 50 bucks, easy to
>>> replace, gas valve is about 150 easy to replace, what ever sensor should
>>> be cheap and easy to replace. Any suggestions as to what to try next?
>>>
>>> Thanks Hams, I know this is off topic, but I have gotten good advice
>>> from this group before and there are no furnace newsgroups of any kind
>>> on my server.
>>> Thanks for any advice or tips or links 73
>>
>> Is there a thermostatic switch on the hot air manifold?
>>
>

2826. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-20 22:46:35 UTC
From: Tom <GMan@Invalid.com>
Message-ID: <C9CdnQuCFO3WjWzTnZ2dnUVZ_vOdnZ2d@giganews.com>
Source record: 3227

Call a Furnace Repair Service....

On 12/20/2011 5:34 PM, Tuuk wrote:
> Ok,
>
> I changed the main fan board, and still the exact same condition happens.
>
> Even though the thermost is off, even disconnected, as soon as I turn the main toggle
> switch for my furnace, both main blower fan and exhaust fans immediately begin and
> nothing else happens.
>
> I just unplugged on leg from the high limit switch, then one leg from the low limit
> switch then both together
>
> Same, nothing.
> Any suggestions?
>
> Thanks
> 73
>
>
>
>
>
>
>
> " Tuuk" <abraaaa@cadabraaaa.ca> wrote in message
> news:Xl0Iq.31376$U16.3688@newsfe15.iad...
>> Hi
>>
>> Thanks for all the advice. And I have tried all those. I took the condensing fan
>> blower out and cleaned out that housing behind it and re-siliconed it. It did have
>> some gunk in there but not enough to cause a clog. But now that is clean and when I
>> reinstalled it the exact same thing happened. What is troubling me is that even if
>> the thermost wires are disconnected from that board what happens is both man blower
>> and exhast blower simply are the only things that run. Instantly. No sequence of
>> events eg blower starting, then ignigters starting then main blower after heat
>> exchangers heats up. None of that. I jumped that float switch and those vacume
>> hoses I sucked and blew through them and I can hear the switches working, but same
>> thing happens, nothing happens with that honeywell smart valve, no gas. I checked
>> all the intake air pipes and exhaust pipes, nothing clogging. While everything
>> leads me to believe it is the board so I bought another for 80 dollars and will
>> replace that board today. I will take a photo of the board and one by one replace
>> those wired and connections and try that. I was hitting those relays on the board

>> and still nothing.
>>
>> Seems some are upset because of my posts of my antenna and my sauna and garden,,,,
>> well coincedently enough I have in my basement the sauna and steam bath thing I
>> also installed and it was that very night that me and the missis were steaming it
>> up in the sauna and steam bath and I think maybe there was moisture in the air that
>> evening as that was the evening it failed.
>>
>> To answer a question about the lights, my friend's furnace has the idiot lights
>> where it blinks signifying what has failed, mine has no lights on that board, I
>> think mine was the model before his, mine is about ten years old. I am going to
>> replace this main fan relay board and see if that solves the problem, I can return
>> the board if the same problem remains and start replacing the next part after that
>> until something works right. I replaced the thermostat with the old one and same
>> problem.
>>
>> Thanks for the advice and tips. As I have said, I know there is a lot of knowledge
>> in this group, I have benefited from it before and will again, as my server doesn't
>> have active newsgroups like HVAC or Furnace or any of the other crazy things I have
>> asked about. Lots of knowledge here, thanks. And i cannot wait until someone asks a
>> question about their furnace, or their sauna rocks, or their tower, or their
>> garden,,, because I will be the first to answer.
>>
>> 73
>>
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>> "dave" <dave@dave.dave> wrote in message
>> news:-bOdnT8pn9-2fnDTnZ2dnUVZ_tSdnZ2d@earthlink.com...
>>> On Fri, 16 Dec 2011 18:20:26 -0500, Tuuk wrote:
>>>
>>>> Hi
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>>>> Honeywell pro 8000 thermostat. NUGM100EHB1 is the furnace.
>>>>
>>>> My question is what happened all of a sudden yesterday when I think I
>>>> had a bit too much humidity in the air, why did the furnace fail?
>>>>
>>>> Now when there is a call for heat on the thermostat, what happens is
>>>> both blowers run only. The exhaust blower venting out runs immediately
>>>> on start up, the main house blower starts immediately on start up. But
>>>> no clicking from the honeywell smart valve, no sparking or ignighting
>>>> beginning or trying. Nothing else is happenening. No gas is going
>>>> through the valve, no obstructions in either intake or exhaust piping. I
>>>> just vacuumed everything out, I changed thermostates to the old one,
>>>> same thing happens. I suspect either the motherboard which has no lights

>>>> to blink to show alarms, or the gas valve which I had to replace couple
>>>> years ago, But back then at least the igniters would light up and shut
>>>> off immediately, told me it was a gas valve issue so replaced that and
>>>> worked. All else looks clean and I smacked as many relays as I could
>>>> see, checked all the tubes to see if connections are ok and seems ok.
>>>> Even when thermostat is turned off, disconnected, when I turn the
>>>> furnace on it only immediately starts up the both blowers and nothing
>>>> else, no clicking, no safeties going on and off, no nothing. Anyone here
>>>> have a suggestion other than hiring an HVAC contracting firm to come in
>>>> and give me estimates? I know a board is about 50 bucks, easy to
>>>> replace, gas valve is about 150 easy to replace, what ever sensor should
>>>> be cheap and easy to replace. Any suggestions as to what to try next?
>>>>
>>>> Thanks Hams, I know this is off topic, but I have gotten good advice
>>>> from this group before and there are no furnace newsgroups of any kind
>>>> on my server.
>>>> Thanks for any advice or tips or links 73
>>>
>>> Is there a thermostatic switch on the hot air manifold?
>>>
>>
>

2827. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 00:48:33 UTC
From: KB2ZGN
Message-ID: <1u92f71b6me1hn1kj69gc45n3i0baafvuh@4ax.com>
Source record: 3228

I only just saw your post, but before you replace the timer board, check to see if there is a limit switch in the blower compartment, and see if there is a reset for it. If this doesn't work, connect a jumper across it and see if that works. If that doesn't do the trick, look for other limit switches and do the same for those. You may not need to replace the timer board after all.

Let us know what you find out please.

Bob KB2ZGN

On Tue, 20 Dec 2011 08:47:38 -0500, " Tuuk" <abraaaa@cadabraaaa.ca> wrote:

>Hi
>
>Thanks for all the advice. And I have tried all those. I took the condensing
>fan blower out and cleaned out that housing behind it and re-siliconed it.
>It did have some gunk in there but not enough to cause a clog. But now that
>is clean and when I reinstalled it the exact same thing happened. What is
>troubling me is that even if the thermost wires are disconnected from that
>board what happens is both man blower and exhast blower simply are the only
>things that run. Instantly. No sequence of events eg blower starting, then
>ignigters starting then main blower after heat exchangers heats up. None of
>that. I jumped that float switch and those vacume hoses I sucked and blew
>through them and I can hear the switches working, but same thing happens,
>nothing happens with that honeywell smart valve, no gas. I checked all the
>intake air pipes and exhaust pipes, nothing clogging. While everything leads
>me to believe it is the board so I bought another for 80 dollars and will
>replace that board today. I will take a photo of the board and one by one
>replace those wired and connections and try that. I was hitting those relays
>on the board and still nothing.
>
>Seems some are upset because of my posts of my antenna and my sauna and
>garden,,,, well coincedently enough I have in my basement the sauna and
>steam bath thing I also installed and it was that very night that me and the
>missis were steaming it up in the sauna and steam bath and I think maybe
>there was moisture in the air that evening as that was the evening it
>failed.
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>To answer a question about the lights, my friend's furnace has the idiot
>lights where it blinks signifying what has failed, mine has no lights on
>that board, I think mine was the model before his, mine is about ten years
>old. I am going to replace this main fan relay board and see if that solves
>the problem, I can return the board if the same problem remains and start
>replacing the next part after that until something works right. I replaced
>the thermostat with the old one and same problem.

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>Thanks for the advice and tips. As I have said, I know there is a lot of
>knowledge in this group, I have benefited from it before and will again, as
>my server doesn't have active newsgroups like HVAC or Furnace or any of the
>other crazy things I have asked about. Lots of knowledge here, thanks. And i
>cannot wait until someone asks a question about their furnace, or their
>sauna rocks, or their tower, or their garden,,, because I will be the first
>to answer.
>
>73

2828. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 00:52:32 UTC
From: KB2ZGN <spam@frontiernet.net>
Message-ID: <dcb2f79gpdfvlobbgu8ii59lmldbjqorkq@4ax.com>
Source record: 3229

I only just saw your post this afternoon, but before you replace the timer board, check to see
if there is a limit switch in the blower compartment, and see if there is a reset for it. If this doesn't work, connect a jumper across it and see if that works. If that doesn't do the trick, look for other limit switches and do the same for those. You may not need to replace the timer board after all.

Let us know what you find out please.

Bob KB2ZGN

On Tue, 20 Dec 2011 08:47:38 -0500, " Tuuk" <abraaaa@cadabraaaa.ca> wrote:

>Hi
>
>Thanks for all the advice. And I have tried all those. I took the condensing
>fan blower out and cleaned out that housing behind it and re-siliconed it.
>It did have some gunk in there but not enough to cause a clog. But now that
>is clean and when I reinstalled it the exact same thing happened. What is
>troubling me is that even if the thermost wires are disconnected from that
>board what happens is both man blower and exhast blower simply are the only
>things that run. Instantly. No sequence of events eg blower starting, then
>ignigters starting then main blower after heat exchangers heats up. None of
>that. I jumped that float switch and those vacume hoses I sucked and blew
>through them and I can hear the switches working, but same thing happens,
>nothing happens with that honeywell smart valve, no gas. I checked all the
>intake air pipes and exhaust pipes, nothing clogging. While everything leads
>me to believe it is the board so I bought another for 80 dollars and will
>replace that board today. I will take a photo of the board and one by one
>replace those wired and connections and try that. I was hitting those relays
>on the board and still nothing.
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>Seems some are upset because of my posts of my antenna and my sauna and
>garden,,,, well coincedently enough I have in my basement the sauna and
>steam bath thing I also installed and it was that very night that me and the
>missis were steaming it up in the sauna and steam bath and I think maybe
>there was moisture in the air that evening as that was the evening it
>failed.
>
>To answer a question about the lights, my friend's furnace has the idiot
>lights where it blinks signifying what has failed, mine has no lights on
>that board, I think mine was the model before his, mine is about ten years
>old. I am going to replace this main fan relay board and see if that solves
>the problem, I can return the board if the same problem remains and start
>replacing the next part after that until something works right. I replaced

>the thermostat with the old one and same problem.
>
>Thanks for the advice and tips. As I have said, I know there is a lot of
>knowledge in this group, I have benefited from it before and will again, as
>my server doesn't have active newsgroups like HVAC or Furnace or any of the
>other crazy things I have asked about. Lots of knowledge here, thanks. And i
>cannot wait until someone asks a question about their furnace, or their
>sauna rocks, or their tower, or their garden,,, because I will be the first
>to answer.
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>73

2829. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 02:12:48 UTC
From: KB2ZGN
Message-ID: <p2f2f7d4bcm5hm87ubkok9pbbn0f9tsljo@4ax.com>
Source record: 3230

On Tue, 20 Dec 2011 17:34:30 -0500, " Tuuk" <abraaaa@cadabraaaa.ca> wrote:

>Ok,
>
>I changed the main fan board, and still the exact same condition happens.
>
>Even though the thermost is off, even disconnected, as soon as I turn the
>main toggle switch for my furnace, both main blower fan and exhaust fans
>immediately begin and nothing else happens.
>
>I just unplugged on leg from the high limit switch, then one leg from the
>low limit switch then both together
>
>Same, nothing.
>Any suggestions?
>
>Thanks

Sorry about the previous duplicate posts, the first one came back as unavailable when I tried to download it myself. That normally only happens when a post expires, but I digress.

Anyway, short the 2 terminals on each limit switch - one switch at a time with the other(s) connected normally. I would start with the blower limit switch. That would be my best guess.

I believe this furnace was made by Heil. I'm out of it now, but I've installed, (and repaired) more of their furnaces and air conditioners over the years than I could count. They are my favorite make. They are the same furnaces that Sears sells, and they also used to be sold under the "Tempstar" brand. That is if they are, as I believe, made by Heil.

Best of luck,
Bob KB2ZGN

****
KB2ZGN
Grid FN13gc
Can often be found on
the WB2KAO repeater at
444.850 (110.9 pl)

2830. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 03:04:17 UTC
From: NM5K <none@invalid.net>
Message-ID: <jcrid6$bg7$1@dont-email.me>
Source record: 3231

On 12/20/2011 4:34 PM, Tuuk wrote:
> Ok,
>
> I changed the main fan board, and still the exact same condition happens.
>
> Even though the thermost is off, even disconnected, as soon as I turn
> the main toggle switch for my furnace, both main blower fan and exhaust
> fans immediately begin and nothing else happens.
>
> I just unplugged on leg from the high limit switch, then one leg from
> the low limit switch then both together
>
> Same, nothing.
> Any suggestions?
>
> Thanks
> 73

Normally, the blower motor and inducer blower should not start at the same time. I was thinking maybe you had the T-stat fan set to "on" and it was running when you called for heat, or maybe it was running due to a "power off during heat cycle" code. But in that case, the blower would run for appx 90 seconds, go off, and then the inducer fan would come on. This is usually a code "12" on a furnace with winky blinky error lights.

But there is another thing that can cause what you are seeing, and that would be an open solid state hi-limit control. If one of those goes open, the IFC "integrated furnace control" which is the board, will cut the 24 volts to the gas valve circuit and then energize the blower blower, and the induced draft blower. These will stay on until the SS hi-limit closes, and then the heat cycle will restart. So you may well have an open hi-limit switch. Test the two connections with an ohm meter. If the furnace is cold, the hi-limit should show continuity. If not, it's kaput. These are usually in series with the other limits, so check all of them. Some of the ones in series will have little buttons you can press to reset.
A SS hi-limit does not have a reset button. It should close back up on it's own after the furnace cools down. But they can go kaput and stay open.
Some may have thermal fuse links also..

If the hi-limit shows open with an ohm meter,
jump the two wires going to it with a jumper.
If that was the culprit, the furnace should start it's
normal heat cycle, close the pressure switch, and
start the igniter.
You would then need to replace the hi-limit switch.
Don't use the jumper in normal service. EVER!
That is just for testing.

But! You would also want to make sure there is no
problem that is causing high exchanger temps before
calling it a day.
Those can be a dirty filter, failing fan motor,
bad cap to motor, motor running too low a speed,
dirty blower wheel, over firing of the burners
due to excess manifold pressure, or orifice size.
So at this point, I think I would be eyeballing
the limits and the SS hi-limit in particular.
That usually looks like a phenolic wafer board with
two terminals that is often inside the case behind
the IFC.
And don't be afraid to call a tech if you feel you
are getting in over your head. I'd hate to see
you burn your house down due to some overlooked
problem that is causing excess temps.

BTW, you should always diagnose a problem in an
orderly military manner. Don't buy parts until
they are proven bad. Throwing money at a problem
and hoping something sticks can often get expensive
and not cure the problem.
Same thing with cars... :/

Anyway, this gives you a bit more to ponder..

2831. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 04:04:14 UTC
From: NM5K <none@invalid.net>
Message-ID: <jcrltjqdt1@dont-email.me>
Source record: 3232

On 12/20/2011 9:04 PM, NM5K wrote:

> That usually looks like a phenolic wafer board with
> two terminals that is often inside the case behind
> the IFC.

Was reading that.. Actually, that "the hi-limit" is usually
around the heat exchanger to the side of the burners..
Dunno why I said it was behind the IFC, which is usually
in the blower area.. :/ But there are other limits for
the blower too. Most of those have the little reset buttons,
and sometimes there can be one in the back side of the
blower that is hard to see. Most limits have blue wires
going to them I believe. They are all rigged up in series.
So if you see a pair of blue wires going back behind the
blower, there is a limit there mounted on the blower housing.

2832. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 14:53:51 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <0qmIq.29167$Q83.153@newsfe17.iad>
Source record: 3233

Bingo

You are absolutely right. There is a reset button hidden between those two terminals in the upper limit switch in that heat chamber.

Wow, nothing I read in my manuals said anything about that reset button. And I paid a technician to come in and diagnose what was wrong, he told me to clean out the condensing housing there, re-silicone that as that may be clogged up but it wasn't and I did that. He also told me he was 99% sure it was a failed board and for him to replace was 300 plus the board, I purchased a board for 80 and did it myself and dam, same problem existed. Now I can return the board (or keep it as it is newer board and allows me now for cooling delay where the old board didn't and the old board didn't have fuses on, the new one does) so newer board is improved but now have back up board so it wasn't the board at all. I paid for a licensed technician to come diagnose after I tried all componenets, and was wrong. Shit happens I guess. Turns out you are exactly right Bob about the limit switch causing both fans to run immediately. after resetting that little button (why didn't that service guy know there was a little reset button hidden in that unit). I bypassed that and must have had the other one closed because it is inline with the smart valve. Wow, what a learning experience.

Anyway, I know more about my furnace than most home owners now, so good learning experience for me and have about 100 dollars worth of extra spare parts incase it fails again.

Excellent advice as usual from you hams. Appreciate every one of your comments, suggestions, tips. I got it working and saved a few hundred dollars but now know more about it than before. A lot more. Very shocked that the licensed service technician furnace guy didn't simply try that reset button. The easiest fix in the world, yet missed it and he would have replaced the board and found the same problem exists then he would have kept trouble shooting and found the relay reset button like I did and charged the home owner a big amount and replaced the board for nothing. Should have been an easy reset fix. Now I know.

Thanks Hams,,, 73s and happy holidays.

Now if I read anyone having issues with their furnace similiar to mine, I am happy to offer advice. Big learning for me. Excellent. (but cost me about 100 bucks but shouldn't have cost me anything).

Thanks again

"KB2ZGN" <spam@frontiernet.net> wrote in message
news:dcb2f79gpdfvlobbgu8ii59lmldbjqorkq@4ax.com...
>I only just saw your post this afternoon, but before you replace the timer

> board, check to see
> if there is a limit switch in the blower compartment, and see if there is
> a
> reset for it. If this doesn't work, connect a jumper across it and see if
> that
> works. If that doesn't do the trick, look for other limit switches and do
> the
> same for those. You may not need to replace the timer board after all.
>
> Let us know what you find out please.
>
> Bob KB2ZGN
>
>
> On Tue, 20 Dec 2011 08:47:38 -0500, " Tuuk" <abraaaa@cadabraaaa.ca>
> wrote:
>
>>Hi
>>
>>Thanks for all the advice. And I have tried all those. I took the
>>condensing
>>fan blower out and cleaned out that housing behind it and re-siliconed it.
>>It did have some gunk in there but not enough to cause a clog. But now
>>that
>>is clean and when I reinstalled it the exact same thing happened. What is
>>troubling me is that even if the thermost wires are disconnected from that
>>board what happens is both man blower and exhast blower simply are the
>>only
>>things that run. Instantly. No sequence of events eg blower starting, then
>>ignigters starting then main blower after heat exchangers heats up. None
>>of
>>that. I jumped that float switch and those vacume hoses I sucked and blew
>>through them and I can hear the switches working, but same thing happens,
>>nothing happens with that honeywell smart valve, no gas. I checked all the
>>intake air pipes and exhaust pipes, nothing clogging. While everything
>>leads
>>me to believe it is the board so I bought another for 80 dollars and will
>>replace that board today. I will take a photo of the board and one by one
>>replace those wired and connections and try that. I was hitting those
>>relays
>>on the board and still nothing.
>>
>>Seems some are upset because of my posts of my antenna and my sauna and
>>garden,,,, well coincedently enough I have in my basement the sauna and
>>steam bath thing I also installed and it was that very night that me and
>>the
>>missis were steaming it up in the sauna and steam bath and I think maybe
>>there was moisture in the air that evening as that was the evening it
>>failed.
>>

>>To answer a question about the lights, my friend's furnace has the idiot
>>lights where it blinks signifying what has failed, mine has no lights on
>>that board, I think mine was the model before his, mine is about ten years
>>old. I am going to replace this main fan relay board and see if that
>>solves
>>the problem, I can return the board if the same problem remains and start
>>replacing the next part after that until something works right. I replaced
>>the thermostat with the old one and same problem.
>>
>>Thanks for the advice and tips. As I have said, I know there is a lot of
>>knowledge in this group, I have benefited from it before and will again,
>>as
>>my server doesn't have active newsgroups like HVAC or Furnace or any of
>>the
>>other crazy things I have asked about. Lots of knowledge here, thanks. And
>>i
>>cannot wait until someone asks a question about their furnace, or their
>>sauna rocks, or their tower, or their garden,,, because I will be the
>>first
>>to answer.
>>
>>73
>

2833. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 17:27:53 UTC
From: KB2ZGN
Message-ID: <sh34f7pevdpv5ed7660up0tr60pv69lbss@4ax.com>
Source record: 3234

On Wed, 21 Dec 2011 09:53:51 -0500, " Tuuk" <abraaaa@cadabraaaa.ca> wrote:

>Bingo
>
>You are absolutely right. There is a reset button hidden between those two
>terminals in the upper limit switch in that heat chamber.
>
>Wow, nothing I read in my manuals said anything about that reset button. And
>I paid a technician to come in and diagnose what was wrong, he told me to
>clean out the condensing housing there, re-silicone that as that may be
>clogged up but it wasn't and I did that. He also told me he was 99% sure it
>was a failed board and for him to replace was 300 plus the board, I
>purchased a board for 80 and did it myself and dam, same problem existed.

Excellent. Sorry I didn't see the thread sooner, it would have saved a lot of time and money. You will probably want to keep the board. Most places won't accept returns on electrical parts. It's too easy for someone to swap their defective part for the new one and try to return it. People try that more often than you would believe.

It's not surprising that the "technician" told you it was the timer board. Look at what it cost, and what he was going to charge for it. In most areas, there is no licensing or certification necessary at all for someone to repair furnaces. If someone presents you with an expensive repair estimate, always get a second opinion. It might be worth the price of a service call to discover that you really don't need it after all. Ask family, friends and neighbors who they use, how many times they had to call them, and were they satisfied.

Glad I could be of help.

Bob KB2ZGN

2834. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 19:15:20 UTC
From: NM5K <none@invalid.net>
Message-ID: <jctb9a$js2$1@dont-email.me>
Source record: 3235

On 12/21/2011 11:27 AM, KB2ZGN wrote:
> On Wed, 21 Dec 2011 09:53:51 -0500, " Tuuk"<abraaaa@cadabraaaa.ca> wrote:
>
>> Bingo
>>
>> You are absolutely right. There is a reset button hidden between those two
>> terminals in the upper limit switch in that heat chamber.
>>
>> Wow, nothing I read in my manuals said anything about that reset button. And
>> I paid a technician to come in and diagnose what was wrong, he told me to
>> clean out the condensing housing there, re-silicone that as that may be
>> clogged up but it wasn't and I did that. He also told me he was 99% sure it
>> was a failed board and for him to replace was 300 plus the board, I
>> purchased a board for 80 and did it myself and dam, same problem existed.
>
>
> Excellent. Sorry I didn't see the thread sooner, it would have saved a lot of
> time and money. You will probably want to keep the board. Most places won't
> accept returns on electrical parts. It's too easy for someone to swap their
> defective part for the new one and try to return it. People try that more often
> than you would believe.
>
> It's not surprising that the "technician" told you it was the timer board. Look
> at what it cost, and what he was going to charge for it. In most areas, there is
> no licensing or certification necessary at all for someone to repair furnaces.
> If someone presents you with an expensive repair estimate, always get a second
> opinion. It might be worth the price of a service call to discover that you
> really don't need it after all. Ask family, friends and neighbors who they use,
> how many times they had to call them, and were they satisfied.
>
> Glad I could be of help.
>
> Bob KB2ZGN

Some of those boards cost silly $$$$$...Even wholesale price.
I always dread having to tell someone they need a new one,
because it's usually a pretty high bill, just because the
price of the part is so high from many of the manufacturer's.
It's usually the dinky fan relays that go TU if one actually
does go bad.
Some companies seems to be semi reasonable.. But some of the
biggest brands like Lennox, Trane, etc.. Ouch... Often around
$225-$250 wholesale just for the part.
You have to be licensed here, but even that doesn't mean the

guy isn't a crook.. :/
They have some companies here that are so big, and have so much overhead, that they almost have to rip people off to stay in business. I can think of one in particular here locally that I hear lots of complaints about. They have a big monster dispatch center that looks like Mission Control at NASA, lots of overhead, loads of trucks, etc.. And they have expanded to other cities in the state.
They rob nearly everyone they deal with. :(

2835. Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 22:16:07 UTC
From: Sal <sobars@aol.com>
Message-ID: <jctlrbnpq1@dont-email.me>
Source record: 3236

Where to aim the ol' spark-catcher???

"Hams love maps, map software, and map-plications! Here's an online applet to create a simple azimuthal-equisdistant map centered on any location you care to specify." -- ARRL Contest Update

The latest edition of the Update contains this link:

http://hp.vector.co.jp/authors/VA011609/azmeqdist_e/azmeqdist_e.html

The site allows for quite a few options. Click around and play. You can drag the geographic map center with your mouse and you'll see the LAT/LONG numbers change as you do. I see no azimuth ring around the outside but a clever fellow can label his printed-out map.

"Sal"
(KD6VKW)

PS: If, perchance, you don't know about the Windows "Print Screen" key and your ability to paste (and edit) the captured bitmap into the "Paint" program ... well, now you do. On Mac, use "Grab" for much the same thing.

2836. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 22:35:00 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <natIq.12761$ed2.4130@newsfe05.iad>
Source record: 3237

Absolutely right.

I appreciate all the input, yes it would have cost me a lot and for what turned out to simply be a resetting of that limit switch.

Good part is that I learned my furnace mechanically inside and out. Only costs me about 100 and have a spare board now.

But after trying everything I could think of, after bypassing all the safeties and bypassing things I was just perplexed.

Thanks again

73s

"NM5K" <none@invalid.net> wrote in message
news:jctb9a$js2$1@dont-email.me...
> On 12/21/2011 11:27 AM, KB2ZGN wrote:
>> On Wed, 21 Dec 2011 09:53:51 -0500, " Tuuk"<abraaaa@cadabraaaa.ca>
>> wrote:
>>
>>> Bingo
>>>
>>> You are absolutely right. There is a reset button hidden between those
>>> two
>>> terminals in the upper limit switch in that heat chamber.
>>>
>>> Wow, nothing I read in my manuals said anything about that reset button.
>>> And
>>> I paid a technician to come in and diagnose what was wrong, he told me
>>> to
>>> clean out the condensing housing there, re-silicone that as that may be
>>> clogged up but it wasn't and I did that. He also told me he was 99% sure
>>> it
>>> was a failed board and for him to replace was 300 plus the board, I
>>> purchased a board for 80 and did it myself and dam, same problem
>>> existed.
>>
>>
>> Excellent. Sorry I didn't see the thread sooner, it would have saved a
>> lot of
>> time and money. You will probably want to keep the board. Most places
>> won't
>> accept returns on electrical parts. It's too easy for someone to swap
>> their
>> defective part for the new one and try to return it. People try that more

>> often
>> than you would believe.
>>
>> It's not surprising that the "technician" told you it was the timer
>> board. Look
>> at what it cost, and what he was going to charge for it. In most areas,
>> there is
>> no licensing or certification necessary at all for someone to repair
>> furnaces.
>> If someone presents you with an expensive repair estimate, always get a
>> second
>> opinion. It might be worth the price of a service call to discover that
>> you
>> really don't need it after all. Ask family, friends and neighbors who
>> they use,
>> how many times they had to call them, and were they satisfied.
>>
>> Glad I could be of help.
>>
>> Bob KB2ZGN
>
> Some of those boards cost silly $$$$$...Even wholesale price.
> I always dread having to tell someone they need a new one,
> because it's usually a pretty high bill, just because the
> price of the part is so high from many of the manufacturer's.
> It's usually the dinky fan relays that go TU if one actually
> does go bad.
> Some companies seems to be semi reasonable.. But some of the
> biggest brands like Lennox, Trane, etc.. Ouch... Often around
> $225-$250 wholesale just for the part.
> You have to be licensed here, but even that doesn't mean the
> guy isn't a crook.. :/
> They have some companies here that are so big, and have so
> much overhead, that they almost have to rip people off to
> stay in business. I can think of one in particular here locally
> that I hear lots of complaints about. They have a big monster
> dispatch center that looks like Mission Control at NASA, lots
> of overhead, loads of trucks, etc.. And they have expanded to
> other cities in the state.
> They rob nearly everyone they deal with. :(
>
>
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>

2837. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-21 23:33:26 UTC
From: NM5K <none@invalid.net>
Message-ID: <jctqdb$hu6$1@dont-email.me>
Source record: 3238

On 12/21/2011 4:35 PM, Tuuk wrote:
> Absolutely right.
>
> I appreciate all the input, yes it would have cost me a lot and for what
> turned out to simply be a resetting of that limit switch.
>
> Good part is that I learned my furnace mechanically inside and out. Only
> costs me about 100 and have a spare board now.
>
> But after trying everything I could think of, after bypassing all the
> safeties and bypassing things I was just perplexed.
>
> Thanks again
>
> 73s

The only thing I wonder about is why it tripped the limit..
I'd keep an eye out on it for a while.. Make sure the fan
never quits running when it should be, doesn't start slowing
down from normal speed, filter clean, etc..
Of course, if there is some problem, it will just trip again,
and you might be able to get an idea what is causing it.

I've already listed most of the things that could cause that.
In the majority of cases, it's the blower motor going kaput.
Then again, maybe it was just a fluke.. @#$% happens sometimes..

I said before that I didn't want you to burn your house down,
but actually it's almost impossible with all the safety devices
those things have. So you really don't have much to worry about
if something does cause it to overheat in the future.

2838. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-22 00:07:39 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <exuIq.34509$LO2.26810@newsfe13.iad>
Source record: 3239

Hey, Thanks for the good advice.

I recently installed a sauna and spa on the same floor, it just happened to be that particular evening that the limit switch tripped when I had used those two units so I think I got a lot of humidity and heat in that basement. Then I also had to remove the intake pipe supplying the fresh air from outside because I had to move something else so that pipe was off and it was sucking in air from that room for combustion. Also, the heat supply ducting inspection plate had been removed from that room because I wanted to add some heat into that room. When I feel that intake area near the tripped limit switch, it is very warm. Now that I have re-connected everything it is cold. So maybe those scinarios had direct responsibility for tripping that limit switch. That is what I am thinking. I think too much heat in that chamber caused it to trip. Doing its job. Hasn't tripped yet after about 6 hours of operation on and off.

Thanks again

"NM5K" <none@invalid.net> wrote in message
news:jctqdb$hu6$1@dont-email.me...
> On 12/21/2011 4:35 PM, Tuuk wrote:
>> Absolutely right.
>>
>> I appreciate all the input, yes it would have cost me a lot and for what
>> turned out to simply be a resetting of that limit switch.
>>
>> Good part is that I learned my furnace mechanically inside and out. Only
>> costs me about 100 and have a spare board now.
>>
>> But after trying everything I could think of, after bypassing all the
>> safeties and bypassing things I was just perplexed.
>>
>> Thanks again
>>
>> 73s
>
> The only thing I wonder about is why it tripped the limit..
> I'd keep an eye out on it for a while.. Make sure the fan
> never quits running when it should be, doesn't start slowing
> down from normal speed, filter clean, etc..
> Of course, if there is some problem, it will just trip again,
> and you might be able to get an idea what is causing it.
>
> I've already listed most of the things that could cause that.
> In the majority of cases, it's the blower motor going kaput.

> Then again, maybe it was just a fluke.. @#$% happens sometimes..
>
> I said before that I didn't want you to burn your house down,
> but actually it's almost impossible with all the safety devices
> those things have. So you really don't have much to worry about
> if something does cause it to overheat in the future.
>
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2839. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-22 13:27:24 UTC
From: dave <dave@dave.dave>
Message-ID: <r9ydndUW3r-hrW7TnZ2dnUVZ_qadnZ2d@earthlink.com>
Source record: 3240

On Wed, 21 Dec 2011 14:16:07 -0800, Sal wrote:

> Where to aim the ol' spark-catcher???
>
> "Hams love maps, map software, and map-plications! Here's an online
> applet to create a simple azimuthal-equisdistant map centered on any
> location you care to specify." -- ARRL Contest Update
>
> The latest edition of the Update contains this link:
>
> http://hp.vector.co.jp/authors/VA011609/azmeqdist_e/azmeqdist_e.html
>
> The site allows for quite a few options. Click around and play. You
> can drag the geographic map center with your mouse and you'll see the
> LAT/LONG numbers change as you do. I see no azimuth ring around the
> outside but a clever fellow can label his printed-out map.
>
> "Sal"
> (KD6VKW)
>
> PS: If, perchance, you don't know about the Windows "Print Screen" key
> and your ability to paste (and edit) the captured bitmap into the
> "Paint" program ... well, now you do. On Mac, use "Grab" for much the
> same thing.

News I can use, thanks. Dave kd6il

2840. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-22 13:28:11 UTC
From: dave <dave@dave.dave>
Message-ID: <r9ydndQW3r_2rW7TnZ2dnUVZ_qadnZ2d@earthlink.com>
Source record: 3241

On Wed, 21 Dec 2011 17:35:00 -0500, Tuuk wrote:

> Absolutely right.
>
> I appreciate all the input, yes it would have cost me a lot and for what
> turned out to simply be a resetting of that limit switch.
>
> Good part is that I learned my furnace mechanically inside and out. Only
> costs me about 100 and have a spare board now.
>
> But after trying everything I could think of, after bypassing all the
> safeties and bypassing things I was just perplexed.
>
> Thanks again
>
> 73s
>
You came to the right place, apparently. 73

2841. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 01:13:07 UTC
From: John S <Sophi.2@invalid.org>
Message-ID: <jd0kj6$7lo$1@dont-email.me>
Source record: 3242

On 12/21/2011 4:16 PM, Sal wrote:
> Where to aim the ol' spark-catcher???
>
> "Hams love maps, map software, and map-plications! Here's an online applet
> to create a simple azimuthal-equisdistant map centered on any location you
> care to specify." -- ARRL Contest Update
>
> The latest edition of the Update contains this link:
>
> http://hp.vector.co.jp/authors/VA011609/azmeqdist_e/azmeqdist_e.html
>
> The site allows for quite a few options. Click around and play. You can
> drag the geographic map center with your mouse and you'll see the LAT/LONG
> numbers change as you do. I see no azimuth ring around the outside but a
> clever fellow can label his printed-out map.
>
> "Sal"
> (KD6VKW)
>
> PS: If, perchance, you don't know about the Windows "Print Screen" key and
> your ability to paste (and edit) the captured bitmap into the "Paint"
> program ... well, now you do. On Mac, use "Grab" for much the same thing.
>
>

I find Google Earth much easier to use. Gives distance and heading. You
can also see the satellite pic of the country (if you're curious).

2842. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 01:30:09 UTC
From: NM5K <none@invalid.net>
Message-ID: <jd0lj6$c2u$1@dont-email.me>
Source record: 3243

On 12/21/2011 6:07 PM, Tuuk wrote:
> Hey, Thanks for the good advice.
>
> I recently installed a sauna and spa on the same floor, it just happened
> to be that particular evening that the limit switch tripped when I had
> used those two units so I think I got a lot of humidity and heat in that
> basement. Then I also had to remove the intake pipe supplying the fresh
> air from outside because I had to move something else so that pipe was
> off and it was sucking in air from that room for combustion. Also, the
> heat supply ducting inspection plate had been removed from that room
> because I wanted to add some heat into that room. When I feel that
> intake area near the tripped limit switch, it is very warm. Now that I
> have re-connected everything it is cold. So maybe those scinarios had
> direct responsibility for tripping that limit switch. That is what I am
> thinking. I think too much heat in that chamber caused it to trip. Doing
> its job. Hasn't tripped yet after about 6 hours of operation on and off.

That was probably the problem. Shouldn't have been a severe overheat,
but maybe enough to push it slightly over the edge as far as the limit.
I doubt you will have any more problems if it's run OK so far.

2843. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 04:56:20 UTC
From: Sal <sobars@aol.com>
Message-ID: <jd11k9ttj1@dont-email.me>
Source record: 3244

"John S" <Sophi.2@invalid.org> wrote in message
news:jd0kj6$7lo$1@dont-email.me...
> On 12/21/2011 4:16 PM, Sal wrote:
>> Where to aim the ol' spark-catcher??>>

< snip >

> I find Google Earth much easier to use. Gives distance and heading. You
> can also see the satellite pic of the country (if you're curious).

I love Google Earth. I have it on my iMac in the house. In the shack, however, I usually can "hear" the monitor as I tune across the bands, so I normally keep it off. I just installed GE here and it runs nicely (XP, 2.4 GHz, 1 GB).

I don't see the feature to do a range and bearing from Home.

2844. Re: Off Topic Furnace Question ??

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 13:51:07 UTC
From: Tuuk <abraaaa@cadabraaaa.ca>
Message-ID: <bH%Iq.36663$c27.28465@newsfe22.iad>
Source record: 3245

Thanks again Hams

Really appreciate your advice here on this topic. I now know more about my furnace than the licenced quaified repair techinician who I paid to diagnose the problem. That is true because I took the couse HVAC engineering about 20 years ago and spent years doing heat lose heat gain caclulations for industry. But never knew there was a simple little dimple reset button in the stragest place. Dam.

Now I know and there is nothing on this unit I cannot repair myself. Servicing and cleaning is easy.

Sorry I upset a few of the hams, I know it is off topic however there is no groups on my server that are active, this one is so sorry I upset some hams with my off topic question but I know there is a lot of knowledge in this group,,, and I am thankful for that.

73s and happy holidays.

"NM5K" <none@invalid.net> wrote in message
news:jd0lj6$c2u$1@dont-email.me...
> On 12/21/2011 6:07 PM, Tuuk wrote:
>> Hey, Thanks for the good advice.
>>
>> I recently installed a sauna and spa on the same floor, it just happened
>> to be that particular evening that the limit switch tripped when I had
>> used those two units so I think I got a lot of humidity and heat in that
>> basement. Then I also had to remove the intake pipe supplying the fresh
>> air from outside because I had to move something else so that pipe was
>> off and it was sucking in air from that room for combustion. Also, the
>> heat supply ducting inspection plate had been removed from that room
>> because I wanted to add some heat into that room. When I feel that
>> intake area near the tripped limit switch, it is very warm. Now that I
>> have re-connected everything it is cold. So maybe those scinarios had
>> direct responsibility for tripping that limit switch. That is what I am
>> thinking. I think too much heat in that chamber caused it to trip. Doing
>> its job. Hasn't tripped yet after about 6 hours of operation on and off.
>
> That was probably the problem. Shouldn't have been a severe overheat,
> but maybe enough to push it slightly over the edge as far as the limit.
> I doubt you will have any more problems if it's run OK so far.
>
>
>
>

2845. Transportation Security Administration Tool Rules

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 17:44:50 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <2447a9a9-4bb8-4b6c-89b1-2b8766ca24b4@q11g2000vbq.googlegroups.com>
Source record: 3246

All Hands

Be advised that the TSA considers any tool longer than seven inches in any dimension to be a weapon and they will not allow it in the passenger compartment of a common carrier aircraft. In order to save my One Hundred Twenty Dollar crimper I had to send it to myself by FedEx go back through security and dammed near miss my flight. I was unaware of this rule so the crimper was in my Radio Carry On. I would not want any radio that I was responsible for to go in with the baggage because it would be unlikely to arrive at the destination in working condition. I guess I will have to buy one of those Air Transport Cases to hold all of my tools and pay the extra fifty bucks to check it with most airlines. Security Theater strikes again.

--
Tom Horne, W3TDH

2846. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 18:27:00 UTC
From: John S <Sophi.2@invalid.org>
Message-ID: <jd2h5p$dh2$1@dont-email.me>
Source record: 3247

On 12/22/2011 10:56 PM, Sal wrote:
> "John S"<Sophi.2@invalid.org> wrote in message
> news:jd0kj6$7lo$1@dont-email.me...
>> On 12/21/2011 4:16 PM, Sal wrote:
>>> Where to aim the ol' spark-catcher??>>
>
> < snip>
>
>
>> I find Google Earth much easier to use. Gives distance and heading. You
>> can also see the satellite pic of the country (if you're curious).
>
> I love Google Earth. I have it on my iMac in the house. In the shack,
> however, I usually can "hear" the monitor as I tune across the bands, so I
> normally keep it off. I just installed GE here and it runs nicely (XP, 2.4
> GHz, 1 GB).
>
> I don't see the feature to do a range and bearing from Home.

In GE, click Tools and select Ruler. Leave the Ruler dialogue box in Line mode. Put your pointer (which has changed to a square with cross hairs) on your starting location and click. Move your pointer to the destination and click again. The dialogue box will show the distance and heading.

Cheers,
John KD5YI

2847. Re: Transportation Security Administration Tool Rules

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 18:36:23 UTC
From: Sal <sobars@aol.com>
Message-ID: <jd2hn8$gu3$1@dont-email.me>
Source record: 3248

"Tom Horne" <hornetd@gmail.com> wrote in message
news:2447a9a9-4bb8-4b6c-89b1-2b8766ca24b4@q11g2000vbq.googlegroups.com...
> All Hands
>
> Be advised that the TSA considers any tool longer than seven inches in
> any dimension to be a weapon and they will not allow it in the
> passenger compartment of a common carrier aircraft.

< snip >

> Security Theater strikes again.

What type of person takes a job knowing it requires them to treat people
like crap?

2848. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 18:54:41 UTC
From: Sal <sobars@aol.com>
Message-ID: <jd2iph$n1s$1@dont-email.me>
Source record: 3249

"John S" <Sophi.2@invalid.org> wrote in message
news:jd2h5p$dh2$1@dont-email.me...
> On 12/22/2011 10:56 PM, Sal wrote:

< snip >>

>> I don't see the feature to do a range and bearing from Home. {Google
>> Earth]
>
> In GE, click Tools and select Ruler. Leave the Ruler dialogue box in Line
> mode. Put your pointer (which has changed to a square with cross hairs) on
> your starting location and click. Move your pointer to the destination and
> click again. The dialogue box will show the distance and heading.
>
> Cheers,
> John KD5YI
>

Works perfectly. Aiming 34.4 degrees for London, 34.35 for Birmingham. <g>

Thanks.

"Sal"

PS: Merry Christmas & Happy Hanukkah to all.

2849. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-23 20:39:20 UTC
From: John S <Sophi.2@invalid.org>
Message-ID: <jd2otsrrs1@dont-email.me>
Source record: 3250

On 12/23/2011 12:54 PM, Sal wrote:
> "John S"<Sophi.2@invalid.org> wrote in message
> news:jd2h5p$dh2$1@dont-email.me...
>> On 12/22/2011 10:56 PM, Sal wrote:
>
>
> < snip>>
>
>>> I don't see the feature to do a range and bearing from Home. {Google
>>> Earth]
>>
>> In GE, click Tools and select Ruler. Leave the Ruler dialogue box in Line
>> mode. Put your pointer (which has changed to a square with cross hairs) on
>> your starting location and click. Move your pointer to the destination and
>> click again. The dialogue box will show the distance and heading.
>>
>> Cheers,
>> John KD5YI
>>
>
> Works perfectly. Aiming 34.4 degrees for London, 34.35 for Birmingham.<g>
>
> Thanks.
>
> "Sal"
>
> PS: Merry Christmas& Happy Hanukkah to all.

I'm pleased I could help. Merry Christmas to you, too.

John

2850. Re: Transportation Security Administration Tool Rules

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-24 15:13:42 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnjfbr1s.4mj.knock_yourself_out@shell.config.com>
Source record: 3151

On Fri, 23 Dec 2011 10:36:23 -0800, Sal wrote:
> "Tom Horne" <hornetd@gmail.com> wrote:
>>
>> Be advised that the TSA considers any tool longer than seven inches in
>> any dimension to be a weapon and they will not allow it in the
>> passenger compartment of a common carrier aircraft.
>
>< snip >
>
>> Security Theater strikes again.
>
> What type of person takes a job knowing it requires them to treat
> people like crap?

A rhetorical question for sure.

2851. Re: Transportation Security Administration Tool Rules

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-24 16:39:22 UTC
From: Bert <bert@iphouse.com>
Message-ID: <Xns9FC56C6631551VeebleFetzer@216.250.188.141>
Source record: 3152

In
news:2447a9a9-4bb8-4b6c-89b1-2b8766ca24b4@q11g2000vbq.googlegroups.com
Tom Horne <hornetd@gmail.com> wrote:

> Be advised that the TSA considers any tool longer than seven inches in
> any dimension to be a weapon and they will not allow it in the
> passenger compartment of a common carrier aircraft.

To ensure traveler's security, transportation security
officers (TSOs) may determine that an item not on the
prohibited items chart is prohibited. In addition, the TSO
may also determine that an item on the permitted chart is
dangerous and therefore may not be brought through the
security checkpoint.

http://www.tsa.gov/assets/pdf/Prohibited%20and%20Permitted%20Items_printerfriendly_3-16-07
.pdf

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

2852. Re: (ot) Transportation Security Administration Tool Rules

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-24 18:36:57 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jd564dfdc1@dont-email.me>
Source record: 3153

"Bert" wrote in message
news:Xns9FC56C6631551VeebleFetzer@216.250.188.141...

In
news:2447a9a9-4bb8-4b6c-89b1-2b8766ca24b4@q11g2000vbq.googlegroups.com
Tom Horne <hornetd@gmail.com> wrote:

>> Be advised that the TSA considers any tool longer than seven inches in
>> any dimension to be a weapon and they will not allow it in the
>> passenger compartment of a common carrier aircraft.
>
> To ensure traveler's security, transportation security
> officers (TSOs) may determine that an item not on the
> prohibited items chart is prohibited. In addition, the TSO
> may also determine that an item on the permitted chart is
> dangerous and therefore may not be brought through the
> security checkpoint.
>
>http://www.tsa.gov/assets/pdf/Prohibited%20and%20Permitted%20Items_printerfriendly_3-16-0
7.pdf
>
>--
>Bert Hyman W0RSB St. Paul, MN bert@iphouse.com
-
Indeed. I'm always amazed when TSA permits my folding walking cane to be
carried on-board.

2853. Re: (ot) Transportation Security Administration Tool Rules

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-24 22:44:27 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnjfclf2.1sto.knock_yourself_out@shell.config.com>
Source record: 3154

On Sat, 24 Dec 2011 10:36:57 -0800, Wayne wrote:
> "Bert" wrote:
> Tom Horne <hornetd@gmail.com> wrote:
>
>>> Be advised that the TSA considers any tool longer than seven inches in
>>> any dimension to be a weapon and they will not allow it in the
>>> passenger compartment of a common carrier aircraft.
>>
>> To ensure traveler's security, transportation security
>> officers (TSOs) may determine that an item not on the
>> prohibited items chart is prohibited. In addition, the TSO
>> may also determine that an item on the permitted chart is
>> dangerous and therefore may not be brought through the
>> security checkpoint.
>>
>>http://www.tsa.gov/assets/pdf/Prohibited%20and%20Permitted%20Items_printerfriendly_3-16-07.pdf
>
> Indeed. I'm always amazed when TSA permits my folding walking cane to be
> carried on-board.

A news snippet in today's newspaper tells the story of the TSA taking
a cupcake away from a woman because *the frosting could be dangerous*.

There may be more to The Story -- but I won't be surprised if it's no
more complicated than that.

2854. YOUTH SPECIAL HOT PICS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-25 05:24:35 UTC
From: RHANI <raghavaraghavi2862@gmail.com>
Message-ID: <67a2d5c2-117b-4434-a3b7-6430ae32b104@l16g2000prg.googlegroups.com>
Source record: 3155

FOR GOOD JOBS SITES TO YOU
http://goodjobssites.blogspot.com/

BUSINESSMAN MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/businessman-movie-stills.html
HOT ACTRESS BIKINI STILLS IN 2012 CALENDAR
http://actressgallery-kalyani.blogspot.com/2011/12/2012-actress-calendar-wallpapers.html
SAMANTHA SOUTHSCOPE HOT PHOTOS
http://actressgallery-kalyani.blogspot.com/2011/12/samantha-at-south-scope-magazine.html
DEEPIKA PADUKONE SPICY WALLPAPERS
http://actressgallery-kalyani.blogspot.com/2011/12/deepika-padukone.html
KATRINA KAIF LATEST HOT WALLPAPERS
http://actressgallery-kalyani.blogspot.com/2011/12/katrina-kaif-wallpapers.html
LOVE FAILURE MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/love-failure-movie-stills.html
4FRIENDS MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/4-friends-movie-stills.html
NANDEESWARUDU MOVIE STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/nandeeswarudu-movie-stills.html
HARI PRIYA HOT PHOTO STILLS
http://actressgallery-kalyani.blogspot.com/2011/12/haripariya-actress.html
SHRUTI HASSAN HOT IN 3 MOVIE
http://actressgallery-kalyani.blogspot.com/2011/11/shruti-hassan-in-3-movie.html
PANJA MOVIE LATEST STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/panja-movie-stills.html
NIPPU MOVIE WORKING STILLS
http://actressgallery-kalyani.blogspot.com/2011/11/nippu-movie-stills.html

FOR FAST UPDATES IN FILM INDUSTRY
KATRINA KAIF RARE PHOTOS
http://allyouwants.blogspot.com/2011/12/katrina-kaif.html
KAJAL AGARWAL LATEST STILLS
http://allyouwants.blogspot.com/2011/03/kajal-latest-stills.html
PRIYANKA CHOPRA LATEST HOT PHOTOSHOOT
http://allyouwants.blogspot.com/2011/08/priyanka-chopra.html
TAMIL ACTRESS HOT PHOTOS&VIDEOS
http://allyouwants.blogspot.com/2011/08/tamil-actress.html

FOR ONLY HOT GUYS SEE THIS
LATEST HOT KATRINA KAIF PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/katrina-kaif-hot.html
ANUSHKA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/anushka-hot.html
PRIYANKA TIWARI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/12/priyanka-tiwari-hot.html

TAMANNA LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/08/tamanna-hot.html
PARUL HOT PHOTO STILLS
http://hotactress-kalyani.blogspot.com/2011/12/parul-hot.html
ADITI AGARWAL NEW ROMANTIC STILLS
http://hotactress-kalyani.blogspot.com/2011/12/aditi-agarwal-hot.html
PAYAL GHOSH HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/11/payal-ghosh-hot.html
RAGINI DWIVEDI HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/12/ragini-dwivedi.html
PARVATHI MELTON LATEST HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/11/parvathi-melton-hot.html
SARAH JANE DIAS HOT PHOTOS
http://hotactress-kalyani.blogspot.com/2011/11/sarah-jane-dias-hot.html
KAJAL AGARWAL HOT SAREE STILLS
http://hotactress-kalyani.blogspot.com/2011/11/kajal-agarwal-hot-in-saree.html
POONAM KAUR HOT ROMANTIC STILLS
http://hotactress-kalyani.blogspot.com/2011/11/poonam-kaur-hot.html

2855. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 00:31:26 UTC
From: John S <Sophi.2@invalid.org>
Message-ID: <jd8f95$fu2$1@dont-email.me>
Source record: 3156

On 12/23/2011 12:54 PM, Sal wrote:
> "John S"<Sophi.2@invalid.org> wrote in message
> news:jd2h5p$dh2$1@dont-email.me...
>> On 12/22/2011 10:56 PM, Sal wrote:
>
>
> < snip>>
>
>>> I don't see the feature to do a range and bearing from Home. {Google
>>> Earth]
>>
>> In GE, click Tools and select Ruler. Leave the Ruler dialogue box in Line
>> mode. Put your pointer (which has changed to a square with cross hairs) on
>> your starting location and click. Move your pointer to the destination and
>> click again. The dialogue box will show the distance and heading.
>>
>> Cheers,
>> John KD5YI
>>
>
> Works perfectly. Aiming 34.4 degrees for London, 34.35 for Birmingham.<g>
>
> Thanks.
>
> "Sal"
>
> PS: Merry Christmas& Happy Hanukkah to all.
>
>

Hmmmm. I got to thinking about your two bearings. The bearing from
Birmingham to London is 44.54 degrees. I don't see how it is possible to
get those two values from a fixed location.

What have you done wrong or what have I done wrong?

John

2856. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 00:55:30 UTC
From: John S <Sophi.2@invalid.org>
Message-ID: <jd8gm8$ld1$1@dont-email.me>
Source record: 3157

On 12/25/2011 6:31 PM, John S wrote:
> On 12/23/2011 12:54 PM, Sal wrote:
>> "John S"<Sophi.2@invalid.org> wrote in message
>> news:jd2h5p$dh2$1@dont-email.me...
>>> On 12/22/2011 10:56 PM, Sal wrote:
>>
>>
>> < snip>>
>>
>>>> I don't see the feature to do a range and bearing from Home. {Google
>>>> Earth]
>>>
>>> In GE, click Tools and select Ruler. Leave the Ruler dialogue box in
>>> Line
>>> mode. Put your pointer (which has changed to a square with cross
>>> hairs) on
>>> your starting location and click. Move your pointer to the
>>> destination and
>>> click again. The dialogue box will show the distance and heading.
>>>
>>> Cheers,
>>> John KD5YI
>>>
>>
>> Works perfectly. Aiming 34.4 degrees for London, 34.35 for Birmingham.<g>
>>
>> Thanks.
>>
>> "Sal"
>>
>> PS: Merry Christmas& Happy Hanukkah to all.
>>
>>
>
> Hmmmm. I got to thinking about your two bearings. The bearing from
> Birmingham to London is 44.54 degrees. I don't see how it is possible to
> get those two values from a fixed location.
>
> What have you done wrong or what have I done wrong?
>
> John

Ah! Now I see! I mistakenly assumed Birmingham, Alabama. My face is red
for not noticing the <g>. Good one!

Cheers,
John

2857. FIND YOUR SOULMATE

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 21:04:19 UTC
From: applefor4 <oscarfeng007@gmail.com>
Message-ID: <2a99051c-85f5-4be3-93ac-f4068dad0d9f@z17g2000vbe.googlegroups.com>
Source record: 3160

hey there,
are you still single in holiday?
Maybe you change it all because of --kissingrich .com-- now,which is
a best place for rich and successful man dating attractive woman.It is
the largest and best club for wealthy people and their admirers to
chat online.you don’t have to be rich or famouse there,but you can
meet one , It's worthy a try.

2858. zzzzzzzzzzzzs

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 21:04:36 UTC
From: applefor4 <oscarfeng007@gmail.com>
Message-ID: <0c7a5969-227f-4db5-840d-134dc00e00d7@i6g2000vbe.googlegroups.com>
Source record: 3158

hey there,
are you still single in holiday?
Maybe you change it all because of --kissingrich .com-- now,which is
a best place for rich and successful man dating attractive woman.It is
the largest and best club for wealthy people and their admirers to
chat online.you don’t have to be rich or famouse there,but you can
meet one , It's worthy a try.

2859. cool

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 21:04:59 UTC
From: applefor4 <oscarfeng007@gmail.com>
Message-ID: <20d891cb-ae5b-49e3-b081-1263166ffa4a@u6g2000vbg.googlegroups.com>
Source record: 3159

cool

2860. cool

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 21:04:59 UTC
From: applefor4 <oscarfeng007@gmail.com>
Message-ID: <61fc01af-ac69-4283-a976-300ed337ebd6@p42g2000vbt.googlegroups.com>
Source record: 3161

cool

2861. Re: cool

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 22:16:55 UTC
From: John S <Sophi.2@invalid.org>
Message-ID: <jdarou$71e$1@dont-email.me>
Source record: 3162

On 12/26/2011 3:04 PM, applefor4 wrote:
> cool

Normal for the northern hemisphere in the winter.

2862. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 22:41:47 UTC
From: Sal <sobars@aol.com>
Message-ID: <jdat7dfbe1@dont-email.me>
Source record: 3163

"John S" <Sophi.2@invalid.org> wrote in message
news:jd8gm8$ld1$1@dont-email.me...
> On 12/25/2011 6:31 PM, John S wrote:
>> On 12/23/2011 12:54 PM, Sal wrote:
>>> "John S"<Sophi.2@invalid.org> wrote in message
>>> news:jd2h5p$dh2$1@dont-email.me...
>>>> On 12/22/2011 10:56 PM, Sal wrote:
>>>
>>>
>>> < snip>>
>>>
>>>>> I don't see the feature to do a range and bearing from Home. {Google
>>>>> Earth]
>>>>
>>>> In GE, click Tools and select Ruler. Leave the Ruler dialogue box in
>>>> Line
>>>> mode. Put your pointer (which has changed to a square with cross
>>>> hairs) on
>>>> your starting location and click. Move your pointer to the
>>>> destination and
>>>> click again. The dialogue box will show the distance and heading.
>>>>
>>>> Cheers,
>>>> John KD5YI
>>>>
>>>
>>> Works perfectly. Aiming 34.4 degrees for London, 34.35 for
>>> Birmingham.<g>
>>>
>>> Thanks.
>>>
>>> "Sal"
>>>
>>> PS: Merry Christmas& Happy Hanukkah to all.
>>>
>>>
>>
>> Hmmmm. I got to thinking about your two bearings. The bearing from
>> Birmingham to London is 44.54 degrees. I don't see how it is possible to
>> get those two values from a fixed location.
>>
>> What have you done wrong or what have I done wrong?
>>
>> John

>
> Ah! Now I see! I mistakenly assumed Birmingham, Alabama. My face is red
> for not noticing the <g>. Good one!
>
> Cheers,
> John

No harm, no foul. (nice chuckle this QTH, though.)

"Sal"
(KD6VKW)

2863. Re: Antenna Pointing Aid From ARRL

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-26 22:54:09 UTC
From: John S <Sophi.2@invalid.org>
Message-ID: <jdatuo$gv3$1@dont-email.me>
Source record: 3164

```
On 12/26/2011 4:41 PM, Sal wrote:
> "John S"<Sophi.2@invalid.org> wrote in message
> news:jd8gm8$ld1$1@dont-email.me...
>> On 12/25/2011 6:31 PM, John S wrote:
>>> On 12/23/2011 12:54 PM, Sal wrote:
>>>> "John S"<Sophi.2@invalid.org> wrote in message
>>>> news:jd2h5p$dh2$1@dont-email.me...
>>>>> On 12/22/2011 10:56 PM, Sal wrote:
>>>>
>>>>
>>>> < snip>>
>>>>
>>>>>> I don't see the feature to do a range and bearing from Home. {Google
>>>>>> Earth]
>>>>>
>>>>> In GE, click Tools and select Ruler. Leave the Ruler dialogue box in
>>>>> Line
>>>>> mode. Put your pointer (which has changed to a square with cross
>>>>> hairs) on
>>>>> your starting location and click. Move your pointer to the
>>>>> destination and
>>>>> click again. The dialogue box will show the distance and heading.
>>>>>
>>>>> Cheers,
>>>>> John KD5YI
>>>>>
>>>>
>>>> Works perfectly. Aiming 34.4 degrees for London, 34.35 for
>>>> Birmingham.<g>
>>>>
>>>> Thanks.
>>>>
>>>> "Sal"
>>>>
>>>> PS: Merry Christmas& Happy Hanukkah to all.
>>>>
>>>>
>>>
>>> Hmmmm. I got to thinking about your two bearings. The bearing from
>>> Birmingham to London is 44.54 degrees. I don't see how it is possible to
>>> get those two values from a fixed location.
>>>
>>> What have you done wrong or what have I done wrong?
>>>
```

>>> John
>>
>> Ah! Now I see! I mistakenly assumed Birmingham, Alabama. My face is red
>> for not noticing the<g>. Good one!
>>
>> Cheers,
>> John
>
> No harm, no foul. (nice chuckle this QTH, though.)
>
> "Sal"
> (KD6VKW)
>

Ha! I don't mind a laugh at my expense for a good, clean one like that.

Cheers,
John
(KD5YI)

2864. HOT SEXY VIDEOS AND ROMANTIC BEAUTIFUL PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-28 05:38:38 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <bf418ad2-eb29-49a9-b6ca-852ab5e4376b@l18g2000pro.googlegroups.com>
Source record: 3165

VERY VERY VERY HOT HOT HOT ONLY HOT
http://acresesandmodels.blogspot.com/2011/06/real-kiss-hot-videos.html

HOT HOT LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/hot-for-youth.html
SUPER HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-101.html
YOUTH HOT PHOTOS
http://hotvideosfreesee.blogspot.com/2010/06/hot-lip-kiss-12.html
ONLY HOT HOT
http://hotvideosfreesee.blogspot.com/2010/06/supr-hot-never-seen.html
SUPER HOT NEVER SEEN
http://hotvideosfreesee.blogspot.com/2010/06/supe-r-hot-kiss-op.html
HEROINE LIP KISS
http://hotvideosfreesee.blogspot.com/2010/06/kajal-best-lip-kiss.html

for mopre hot videos
http://allvideosforyouth.blogspot.com/2010/08/super-hot-lip-kiss.html

jobs
http://alljobsaywhere.blogspot.com/

mobile

mobile games free download
http://mobileallinforation.blogspot.com/2010/08/mobile-games-free-download.html

mobile ringtones free download
http://mobileallinforation.blogspot.com/2010/08/mobile-ringtones-free-download.html

2865. radio popular now in ur wonderssssssssssss

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-31 02:38:08 UTC
From: n <nvidhya01@gmail.com>
Message-ID: <98070cea-1ae3-40e5-9625-283c244f6b17@s10g2000prj.googlegroups.com>
Source record: 3166

http://123maza.com/48/silver424/

2866. twi version of chris brown's i should have kissed you

Newsgroup: rec.radio.amateur.antenna
Date: 2011-12-31 10:41:21 UTC
From: kwame oleur <mikbaah@gmail.com>
Message-ID: <f26b65b3-8ab6-493e-ac9c-8dcfe39f81c9@v13g2000yqc.googlegroups.com>
Source record: 3167

http://youtu.be/EukneiFKym0